

Checklist for Chloralkali Plants

DRAFT

**UNEP/DTIE
Chemicals Branch
June 2011**

This Checklist was developed and applied on-site in the framework of the Chloralkali Project - Uruguay

This Checklist can be downloaded from

<http://www.unep.org/hazardoussubstances/Mercury/PrioritiesforAction/WasteManagement/Activities/tabid/4500/language/en-US/Default.aspx>

UNEP and the World Chlorine Council thank the following partners for their assistance and cooperation in developing this document:

- Dirección Nacional de Medio Ambiente (DINAMA), Montevideo, Uruguay
- Efice S.A., Montevideo, Uruguay

and the producer Associations of the International Council of Chemical Associations (ICCA)

- Eurochlor (Europe)
- Clorosur (Latin America)

The Government of Norway supported this pilot project through the Norway ODA grant funds 2010

Chloralkali Project - Uruguay

Chloralkali Plant Checklist

Table of Content

	Page
Table of Content.....	i
Abbreviations and Acronyms.....	iii
1 General.....	1
1.1 Objectives.....	1
1.2 Activities to Be Carried Out in the Plant.....	1
1.3 Use of the Checklist.....	2
Management Leadership.....	3
I. Company general organization and planning.....	3
PROGRAM COORDINATION.....	8
II. Coordination of Occupational Health (Exposure to Mercury).....	8
PROGRAM COORDINATION.....	11
III. Coordination of Industrial Hygiene (Exposure to Mercury).....	11
PROGRAM COORDINATION.....	13
IV. Environment and Coordination (Mercury).....	13
CONTROL MEASURES.....	16
V. Acquisition.....	16
CONTROL MEASURES.....	18
VI. Mercury: Emergency and Special Situations.....	18
CONTROL MEASURES.....	20
VII. Handling of Mercury and Products, Pieces and Waste that Contains Mercury ..	20
CONTROL MEASURES.....	22
VIII. Mercury Transportation and Mercury Waste.....	22
CONTROL MEASURES.....	23
IX. Mercury Storage and Collection.....	23
CONTROL MEASURES.....	25
X. Electrolysis Process – Cell Room.....	25
CONTROL MEASURES.....	32
XI. Maintenance – Cell Room.....	32
CONTROL MEASURES.....	35
XII. Cleaning of Cell Room and Other Sites.....	35
CONTROL MEASURES.....	37
XIII. Process – Other Facilities.....	37
CONTROL MEASURES.....	41
XIV. Process – Environmental Facilities.....	41

CONTROL MEASURES	46
XV. Soil Management.....	46
CONTROL MEASURES	47
XVI. Working Procedures (Tasks).....	47
CONTROL MEASURES	48
XVII. Capacitating – Personnel Training	48
CONTROL MEASURES	49
XVIII. Rules and Regulations related to Mercury	49
CONTROL MEASURES	50
XIX. Hygiene Measures	50
CONTROL MEASURES	51
XX. Behaviour Measures	51
CONTROL MEASURES	52
XXI. Personal Protective Equipments.....	52
CHECKING	53
XXII. Inspections.....	53
CHECKING	55
XXIII. Monitoring Exposure and/or Air Quality at Workplace.....	55
CHECKING	57
XXIV. Mercury Measurement Methods	57
CHECKING	58
XXV. Balance of Usage and Emissions of Mercury at the Plant	58
MANAGEMENT END OF LIFECYCLE OF PLANT OPERATION.....	59
XXVI. Audits of Systems or Programs	59
MANAGEMENT END OF LIFECYCLE OF PLANT OPERATION.....	60
XXVII. Decommissioning.....	60
MANAGEMENT END OF LIFECYCLE OF PLANT OPERATION.....	61
XXVIII. Long-term Mercury Storage.....	61
COMMUNICATION.....	62
XXIX. Communication with Stakeholders	62
COOPERATION	63
XXX. Cooperation Actions among Companies and between Companies and Stakeholders	63

Abbreviations and Acronyms

%	per cent
DINAMA	Dirección Nacional de Medio Ambiente (National Environmental Directorate of Uruguay)
DTIE	Division of technology, Industry and Economics
Hg	Mercury
NGO	Non-governmental organisation
UNEP	United Nations Environment Program
WCC	World Chlorine Council

DRAFT

Questionnaire

1 GENERAL

This checklist was developed by the WCC Expert, Mr. Gilberto Marronato, and was applied in the pilot project on mercury management “Chloralkali Project – Uruguay” in April 2011. The project was financed by the Government of Norway and jointly implemented by the Government of Uruguay through Dirección Nacional de Medio Ambiente (National Environmental Directorate of Uruguay (DINAMA), the World Chlorine Council through Clorosur, Efice S.A., and UNEP/DTIE Chemicals Branch. The report of this project is available at the UNEP WebSite under Harmful Substances and Hazardous Waste <http://www.unep.org/hazardoussubstances/Mercury/GlobalMercuryPartnership/tabid/1253/Default.aspx>.

This checklist is still in DRAFT version and UNEP would welcome feedback on its suitability and applicability during further testing.

1.1 Objectives

Check if the WCC guidelines on mercury are applicable in chlorine-alkali plants in its present form or with improvements, if any.

Provide useful information for the chlor-alkali plant participating in the pilot.

1.2 Activities to Be Carried Out in the Plant

Check the mercury management, in particular the employed techniques and practices and the results. Check the relation between the employed techniques and practices with WCC guidelines. Check which are the concerns or needs that the leader team of the plant considers the current situation. Check the knowledge and use of guidelines in the plant and how they can help the management in different manners (planning, implementation of control and monitoring measures, improvements of existing practices, internal audits, communication and cooperation with stakeholders).

It will be performed applying:

- Interviews with the leading team and other key people in management and operation. Discussion concerning the guidelines during the interviews.
- Inspection visits and plant knowledge
- Verification of documents used in the management and performance results.

1.3 Use of the Checklist

This Checklist is extensive and goes beyond the pilot project needs of applicability assessment of WCC guidelines. For purposes of the pilot project an exhaustive exploration may be not needed since some items were identified:

- a) The development stage of company management in different components (*e.g.*, control measures) and items (*e.g.*, Maintenance – Cell Room); enabling the company to receive this information useful for improving management.
- b) Whether and how the guidelines can be useful for the key people in the improvement of existing practices and / or implementation of new management practices.

The checklist includes seven basic elements (management leadership, program coordination, control measures, checking, communication and cooperation) and thirty elements of verification.

预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_14011

