



CORPORATE STANDARD

AA 064 20 01

Rev. No. 02

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PROCESS FOR TREATMENT OF EFFLUENTS FROM PLATING AND ALLIED TRADES

1.0 GENERAL:

This standard details the process for chemical treatment of effluents generated from electroplating, heat treatment phosphating and other related chemical treatments to remove or reduce the highly toxic cyanides, acids, alkalis, hexavalent chromium, etc., present therein so that the treated effluents conform to the permissible limits for disposal into inland surface water.

2.0 APPLICATION:

To reduce the toxic levels of the above effluents so as to bring them within the permissible limits.

3.0 COMPLIANCE WITH NATIONAL STANDARDS:

As Part 1 and Part 2 of IS: 2488 had been withdrawn, the values of process control parameters specified in this standard shall comply.

4.0 MATERIALS:

<u>Material</u>	<u>CPS. No. / IS. No. / Available From</u>
Caustic soda (Technical)	: AA 542 01
Sulphuric Acid (Technical)	: AA 541 01
Bleaching Powder Stable (Calcium Hypochlorite- technical)	: AA 55617
Sodium Bisulphate (Technical)	: AA 55613
Sodium Carbonate (Washing Soda /Soda Ash-Technical)	: AA 55622

Revisions:
As per 40th MOM of MRC-CPO

APPROVED:
INTERPLANT MATERIAL
RATIONALISATION COMMITTEE-MRC (CPO)

Rev. No.02

Amd.No.

Reaffirmed

Prepared
BHOPAL

Issued
Corp. R&D

Dt. of 1st Issue
Feb. '88

Dt.: 26.05.2012

Dt:

Year:



Sodium Hypochlorite	:	AA 55615
Caustic Soda Lye (Technical)	:	IS: 252
Ferrous Sulphate (Technical)	:	IS: 262
Lime/ Lime Slurry (Commercial)	:	IS: 1540(Part II)
Cynokil	:	M/s Pradeep Metal Treatment, Mumbai
Nutrocyn - 56	:	M/s Srinivasa Industrial Chemicals, Bangalore

5.0 EQUIPMENT:

Cyanide treatment tank	:	RCC tank with suitable air agitation and pumping arrangement.
Acid / Alkali treatment tank	:	-do-
Chromium treatment tank	:	PVC/Epoxy lined RCC tank with suitable air agitation and pumping arrangement.
Settling tank	:	RCC tank for settling solid mass

6.0 PROCESS:

The effluents shall be classified into three different categories and separate process of treatment shall be followed for each. Wherever separate treatment is not feasible, alternative methods of treatment may be followed.

6.1 Acid / Alkali Effluent :

Both acid and alkali wastes shall be collected in one tank and treated according to their acidic or alkaline characteristic.

6.1.1 When the mixed effluent is acidic, it shall be treated with caustic soda or lime slurry in such a way that the pH value is maintained between 5.5 to 9.0.

6.1.2 When the mixed effluent is alkaline, it shall be treated with sulphuric acid solution in such a way that the pH value is maintained between 5.5 to 9.0.

6.2 Chromium Effluent:**6.2.1 Control of pH :**

5 in the chromium treatment tank by suitable addition of sulphuric acid solution. The pH value of the chromium wastes shall be first adjusted between 2.0 to 2