

CYANIDE USAGE HIF AUDIT - 17/06/2003 01:52:26 PM

1. CYANIDE MANAGEMENT SYSTEM

Point	Standard	Standard Met	Comments
1.1	A written system is in place which addresses safe management of cyanide on site.		
1.2	A hazard assessment has been conducted in relation to the use etc of cyanide on the mine site.		
1.3	Risk assessments of the identified hazards have been carried out.		
1.4	SWP's have been developed from the risk assessment.		
1.5	The elements of the cyanide management system are Viewed on a regular basis (at least annually) with employee input to the process.		
1.6	An emergency plan covering cyanide scenarios has been formulated and documented.		

2. REFERENCE DOCUMENTS

Point	Standard	Standard Met	Comments
2.1	The following documents are available to personnel on site: Mines Safety and Inspection Act 1994 Mines Safety and Inspection Regulations 1995 Dangerous Goods Regulations 1992 Australian Standard 1715 Material Safety Data Sheet for each type of cyanide stored on site (liquid & solid) Manifest of dangerous goods stored at the premises.		

3. INDUCTION OF EMPLOYEES

Point	Standard	Standard Met	Comments
3.1	All persons to be employed in an area on site using cyanide receive an induction containing specific information on avoiding the hazards associated with the storage and use of cyanide including: The site emergency plan Characteristics of cyanide The areas on site where cyanide is used and stored Symptoms and effects of cyanide poisoning Specific first aid requirements Hygiene requirements Personal protective equipment		

4. STANDARD WORKING PROCEDURES

Point	Standard	Standard Met	Comments
4.1	The cyanide management system has documented standard working procedures including: Description of tasks PPE to be used Identifying potential hazards Hazard reporting procedure Hazard control procedures Emergency procedures		
4.2	Employees (staff and contract) are trained in each relevant working procedure prior to commencement of working in each capacity		
4.3	Competency in work procedures is assessed and recorded during training.		
4.4	Refresher training of all personnel is conducted on a regular basis.		
4.5	Persons in supervisory positions are trained in each working procedure which relates to personnel under their authority.		

5. STORAGE AREA AND PROCESS PLANT

Point	Standard	Standard Met	Comments
5.1	The site has a cyanide storage licence.		
5.2	An assessment of separation distances between bulk cyanide storage and other areas (including storage of other reagents) has been recorded and is up to date with the current storage situation.		
5.3	Bulk storage areas are capable of retaining all spillage of cyanide within the premises.		
5.4	A separation distance of at least 30 metres is maintained between bulk cyanide storage areas and acid/water and CO2 fire extinguishing equipment.		
5.5	Bunded areas around bulk cyanide storage areas are constructed with an impervious material.		
5.6	The area surrounding each bulk solid cyanide storage area is suitably sloped and drained to prevent the accumulation of water in the storage area.		
5.7	Each bulk cyanide storage area is located above ground level.		
5.8	All bulk cyanide storage areas are provided with adequate security in the form of lockable buildings (may be freight containers) and security fences, and all entrances are kept locked when not attended		

5.9	If a bulk solid cyanide storage area is within one kilometre of a town site, it has a roofed cover.		
5.10	Where a building, or part of a building is used for the bulk storage of cyanide, the building is constructed of fire resistant materials with a fire rating of one hour.		
5.11	Where a building, or part of a building is used for the bulk storage of cyanide, the openings in the building storage area are limited to access doorways and ventilation openings.		
5.12	Each bulk liquid cyanide container has a free vent pipe which has the following attributes: It extends to the height of at least 4 metres above ground level Discharges at least 4 metres from any work access areas		
5.13	Each bulk liquid cyanide container is fitted with an overflow pipe positioned 300mm below the top of the container which discharges at ground level and within the tank bund.		
5.14	Each bulk liquid cyanide container has all discharge pipes connected to pump suction fitted with 2 valves in series and a bleed valve intervening the 2 valves and is located between the container and the pump.		
5.15	Each bulk liquid cyanide container has a liquid level gauge which is clearly visible to the operator and is not in the form of a sight glass.		
5.16	Each outlet from a drain valve on each bulk liquid cyanide container is fitted with a blank flange.		
5.17	Where bulk liquid cyanide containers are connected to the processing plant, a non-return valve is fitted to the discharge line to prevent any other liquids from entering the container.		
5.18	At each loading position for bulk cyanide containers the ground is graded so that any spillage from the delivery vehicle drains into a sump or containment area having the capacity at least equal to the capacity of the largest tank on the delivery vehicle.(Usually 20 tonne)		
5.19	At each loading position for bulk cyanide containers written instructions as to the procedure to be adopted for transferring liquid cyanides are prominently and displayed and maintained in a legible state.		
5.20	Process pipes throughout the plant are identified with appropriate clear labelling.		
5.21	Pipes carrying cyanide solutions are routed to maintain separation from incompatible materials and personnel work areas and travelling ways		
5.22	Underground pipe work is installed with secondary containment.		

5.23	Safety showers and eyewashes are installed in chemical delivery, storage, addition and mixing areas with attention to the following aspects: Proximity to areas where hazard exists Ease of access Sufficient volume of water Temperature of water delivered Identification light for night time and impaired vision Security of water supply (eg. cleanliness, continuity) A written checking and maintenance schedule.		
------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--

6. EMERGENCY PROCEDURES

Point	Standard	Standard Met	Comments
6.1	A regularly maintained oxyviva or equivalent resuscitator is available for the resuscitation of persons affected by cyanide		
6.2	There is an emergency kit for treatment of cyanide poisoning.		
6.3	Emergency spillage procedures include: PPE required Persons to be informed of incident Clean up process, spillage containment and isolation of spill area Location of first aid supplies and emergency respiratory equipment.		
6.4	Competent emergency personnel are available at all times to effect emergency measures in the case of a cyanide spill or the generation of HCN gas.		
6.5	Competent first aid person is available at the mine at all times to administer first aid.		
6.6	Emergency drills covering cyanide scenarios are held periodically according to a set scheme.		

7. PERSONAL PROTECTIVE EQUIPMENT

Point	Standard	Standard Met	Comments
7.1	Work procedures identify the required personal protective equipment.		
7.2	B Class or equivalent respirators are available to personnel for use in areas likely to contain <100 ppm concentrations of HCN.		
7.3	Respirators issued to personnel are maintained and stored correctly.		
7.4	Filter replacement and condition of respirators in fixed locations is checked and recorded according to a written schedule.		

8. HCN MONITORING

Point	Standard	Standard Met	Comments
8.1	Calibrated HCN monitoring equipment is available on site at all times.		
8.2	HCN monitoring and recording procedures take into account the layout of the plant, the work duties of personnel and the risk of exposure to personnel.		
8.3	Recording of HCN monitoring is done in a dedicated ventilation log book which is available to operators.		
8.4	HCN monitoring records are up to date and legible.		
8.5	Monitoring results exceeding exposure standards are reported to the Registered Manager.		