



PHARMA DEVILS

QUALITY CONTROL DEPARTMENT

STANDARD OPERATING PROCEDURE

Department: Quality Control	SOP No.:
Title: Handling of Hazardous, Poisonous & Restricted Chemicals	Effective Date:
Supersedes: Nil	Review Date:
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1.0 OBJECTIVE:

To lay down a procedure for careful Handling and usage of hazardous, poisonous & restricted chemicals to avoid any accident.

2.0 SCOPE:

This SOP shall be applicable for all hazardous, poisonous & restricted chemicals in the Quality Control Laboratory.

3.0 RESPONSIBILITY- Execution - Executive QC

Checking - Assistant Manager QC.

4.0 ACCOUNTABILITY- Manager Quality Control

5.0 PROCEDURE:

5.1 Handling of hazardous chemicals

5.1.1 The chemicals which are labelled as per following category & symbol are considered to be hazardous.

a) Oxidizing b) corrosive

5.1.2 Handle the hazardous chemicals carefully to avoid untoward incident.

5.1.3 Wear appropriate clothing and use safety hand gloves, goggles, mask and other protective means.

5.1.4 Keep yourself away from container, while pouring and siphoning the chemicals.

5.1.5 Use suction bulb during pipetting of solution.

5.1.6 While preparing dilute Sulphuric acid solution take special care as follows:

5.1.6.1 First cool the aqueous solution in ice bath. Slowly add sulphuric acid into the solution with constant stirring. Never follow reverse procedure.

5.1.7 Keep inflammable liquids and substances away from naked flame or electric spark.

5.1.8 Carefully handle the inflammable chemicals like Ether and it should not be used near flame.

5.1.9 Clean the spillage if any as per the current version of "Handling of Spillage in the Laboratory".



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5.1.10 Handle the hazardous chemicals as per the MSDS file available in designated place of Quality Control department.

5.2 Handling of poisonous chemicals

5.2.1 Handle the poisonous chemical as per the Material Safety Data Sheet (MSDS) as mentioned in Annexure I.

5.2.2 Wear hand gloves, safety goggles, mask, and other protective means.

5.2.3 Perform all the activities like opening, transferring and solution preparation etc. in fume hood only.

5.2.4 Always use rubber bulb during pipetting of solution.

5.2.5 Store Poisonous chemicals in designated locked and key area.

5.2.6 Key to be kept in control with authorised person only.

5.2.7 List of Poisonous chemicals is mentioned as per Annexure-II.

5.2.8 Maintain the stock and usage records of poisonous chemicals as per Annexure – III.

5.3 Handling of prohibited chemicals

5.3.1 The prohibited chemicals / reagents are Rectified spirit, Absolute alcohol, Acetic anhydride & Ammonium chloride.

5.3.2 The usage records of prohibited chemicals shall be maintained as per Annexure –IV

5.3.3 Keep the records always updated.

6.0 SAFETY & PRECAUTIONS:

6.1 Always wear personnel protection equipment while using these chemicals.

7.0 REVISION HISTORY:

Revision No.	Reason for Revision	Superseded from & date
00	New	

8.0 DISTRIBUTION:

Copy No.	Issuance Record	Withdrawal Record	Destruction Record
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	Date	Dept. issued	Name / Signature of receiver	Issued By Name / Signature	By	Sign/ Date	By	Sign/ Date
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9.0 REFERENCES:

“Handling of Spillage in the Laboratory:

10.0 ABBREVIATIONS & ANNEXURES:

SOP : Standard Operating Procedure

No. : Number

Dept. : Department

QC : Quality Control

MSDS: Material Safety Data Sheet

ANNEXURES

Annexure - I - Material Safety Data Sheet

Annexure – II - List of Poisonous Chemicals

Annexure – III - Bin card for Poisonous chemicals

Annexure - IV - Usage records of prohibited chemicals.



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ANNEXURE-I MATERIAL SAFETY DATA SHEET

Name of material	Risk	Safety precaution	Disposal
Potassium cyanide	<ul style="list-style-type: none"> - Very toxic, inhalation in contact with skin and if swallowed. - contact with acids liberates very toxic gas. 	Keep container tightly closed. After contact with skin wash immediately with plenty of dilute sodium hydroxide followed with water. <ul style="list-style-type: none"> - Do not empty into drains - In case of accident or if feel unwell seek medical advice immediately 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Lead nitrate	<ul style="list-style-type: none"> - Contact with combustible material cause fire. -Harmful by inhalation and in contact with skin. -Danger of cumulative effects 	Keep away from food, drink and animal feeding stuffs. Keep away from combustible materials While using chemicals, do not eat ,drink, or smoke In case of accident or if you feel unwell seek medical advice immediately	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Sodium fluoride	<ul style="list-style-type: none"> -Toxic if swallowed. contact with acids liberates toxic gas Irritating to the eyes and skin 	<ul style="list-style-type: none"> - Do not breath dust - Wear suitable clothing - In case of accident or if you feel unwell seek medical advice immediately 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Mercuric Acetate	<ul style="list-style-type: none"> -Very toxic inhalation ,in contact with skin and if swallowed - Danger of cumulative effects 	<ul style="list-style-type: none"> - Keep away from food drink and animal feeding stuff - After contact with skin, wash immediately with plenty of water - Wear suitable protective clothing. - In case of accident or if you feel unwell seek medical immediately 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Mercuric oxide	Very toxic by inhalation in contact with skin and if Swallowed <ul style="list-style-type: none"> - Danger of cumulative effects 	Keep away from food, drink and animal feeding stuff. After contact with skin wash immediately with plenty of water In case of accident or if You feel unwell seek medical advice immediately	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Mercuric Iodide	<ul style="list-style-type: none"> -Very toxic by inhalation in contact with skin 	Keep away from food, drink and animal feeding stuff After contact with skin wash immediately	Dispose off in regulated land fill site



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Name of material	Risk	Safety precaution	Disposal
	and if swallowed -Danger of cumulative effects	with plenty of water. In case of accident or if You feel unwell seek medical advice immediately	
Mercuric Thiocyanate	Very toxic by inhalation in contact with skin and if swallowed -Danger of cumulative effects	Keep away from food drink and animal feeding stuff After contact with skin wash immediately with plenty of water In case of accident or if You feel unwell seek medical advice immediately	- Dispose off in regulated land fill site

Cupric Chloride	-Toxic if swallowed -Irritating eyes, respiratory system and skin	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice immediately After contact with skin wash immediately with plenty of water Wear suitable protective clothing gloves and eye/face protection In case of accident or if you feel unwell seek medical immediately	Dispose off in regulated land fill site
Chloro Acetic Acid	Toxic if swallowed -Cause burns	- Do not breath dust - Wear suitable gloves - In case of accident or if You feel unwell seek medical advice immediately	Cautiously add to an excess of well stirred water and ice, neutralized with excess of sodium bicarbonate solution, stir overnight, if insoluble, solid remains, filter and dispose off in an approved land fill site.

Acrylamide	-Toxic in contact with skin and if swallowed -Toxic by inhalation and if contact with skin and if swallowed -May cause cancer -May cause hereditary genetic damage -Danger of serious damage to breath by prolonged exposure	- In case of accident or if you feel unwell medical advice immediately - Avoid exposure - Obtain specific instructions before use	Mix or dissolved with Combustible material and burn in an approved chemical incinerator.
Phenyl Hydrazine HCL	-Toxic by inhalation and contact with skin	- In case of contact with eyes ,rinse immediately with plenty of water and	- Dispose off in regulated land fill site



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	<ul style="list-style-type: none"> -Irritating to the eyes -Possible risk of irreversible effects 	<ul style="list-style-type: none"> seek medical advice - Wear suitable protective clothing gloves and eye protection - In case of accident or if feel unwell seek medical advice immediately 	
Hydroxyl Amine HCl	<ul style="list-style-type: none"> -Toxic and corrosive cause burns to any area of contact - Harmful if swallowed. Or inhaled - Powerful reducing agents 	<ul style="list-style-type: none"> - After contact with skin immediately flush with plenty of water - If it is contact with eyes flush eyes/face with plenty of water - In case of accident or if you feel unwell seek medical advice immediately 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Arsenic Trioxide	<ul style="list-style-type: none"> - Poison danger may be fatal if swallowed or inhaled - It contains inorganic arsenic which can cause cancer - Cause irritation to eye and respiratory tract . 	<ul style="list-style-type: none"> Keep container tightly closed If inhaled move to fresh air & if not breathing properly give artificial respiration If contact with skin immediately flush the skin with plenty of water 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Cyanogen Bromide	<ul style="list-style-type: none"> - Highly toxic - May be fatal if inhaled or absorbed through skin Cause eye and skin irritation - Irritating to mucous membrane and upper respiratory tract 	<ul style="list-style-type: none"> - Keep container tightly closed - If inhaled move to fresh air,if you feel unwell ,seek medical advise immediately 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Potassium chromate	<ul style="list-style-type: none"> -Dangerous, strong oxidizing agent, corrosive -Cause severe burns to every area of contact -Harmful if swallowed or inhaled -Cancer hazardous/ can cause cancer -Affects liver , kidneys and eyes and Respiratory system 	<ul style="list-style-type: none"> Keep in tightly closed container If inhaled move to air If contact with skin flush immediately with plenty of water If contact with eyes flush immediately with plenty of water If inhaled move to fresh air, if you feel unwell, seek medical advise immediately 	<ul style="list-style-type: none"> -Dispose off in regulated land fill site
Potassium dichromate	<ul style="list-style-type: none"> - highly toxic ,corrosive and oxidizer 	<ul style="list-style-type: none"> - If inhaled move to fresh air, if not feel well seek medical advice immediately. - If contact with skin, flush 	<ul style="list-style-type: none"> - Dispose off in regulated land fill site



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	<ul style="list-style-type: none">- Harmful if swallowed or inhaled- Affect the respiratory system, liver, kidneys, eyes and skin- May cause allergic reaction- Cancer hazardous/ can cause cancer	<ul style="list-style-type: none">- immediately wash with plenty of water.- If contact with eyes immediately flush with plenty of water.	
Barium hydroxide	<ul style="list-style-type: none">- Highly toxic, corrosive- May be fatal, if swallowed- Harmful, if inhaled- Cause irritation to skin, eyes and respiratory tract- Affects muscles and central nervous system	<ul style="list-style-type: none">- If inhaled, move to fresh air & if not feel well seek medical advice immediately.- If contact with skin, flush immediately with plenty of water.- If contact with eyes, flush immediately with plenty of water.	<ul style="list-style-type: none">- Dispose off in regulated land fill site



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ANNEXURE-II

1,10 Phenanthroline hydrate	<ul style="list-style-type: none"> -Toxic if swallowed -May cause eye and skin irritation -May cause respiratory and digestive tract irritation 	<p>If inhaled, remove to fresh air, if not feel well seek medical advice immediately.</p> <p>If contact with skin, flush immediately with plenty of water.</p> <p>If contact with eyes immediately flush with plenty of water</p>	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Potassium Sodium Tartrate	<ul style="list-style-type: none"> - May cause skin, eyes and Respiratory tract irritation - Large oral dosage may cause irritation to the gastrointestinal tract 	<p>Keep in tightly closed container</p> <p>If inhaled move to fresh air</p> <p>If contact with skin, flush immediately with plenty of water</p> <p>In case of accident or if feel unwell seek medical advice immediately</p>	<ul style="list-style-type: none"> - Dispose off in regulated land fill site
Mercuric Nitrate	<ul style="list-style-type: none"> -Very toxic by inhalation in contact with skin and if swallowed - Danger of cumulative effects 	<p>Keep away from food, drink and animal feeding stuff.</p> <p>After contact with skin wash immediately with plenty of water</p> <p>In case of accident or if you feel unwell seek medical advice immediately</p>	<ul style="list-style-type: none"> - Dispose off in regulated land fill site

LIST OF POISONOUS CHEMICALS



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S.No	DESCRIPTION
1	Potassium Cyanide
2	Lead Nitrate
3	Mercuric Acetate
4	Mercuric Oxide
5	Mercuric Iodide
6	Mercury Thiocyanate
7	Arsenic Trioxide
8	Cyanogen Bromide
9	Mercuric Nitrate
10	Mercuric Chloride
11	Mercuric Sulphate
12	Hydroxyl Ammonium Sulphate

