Annexure I

List of Industries involving hazardous processes

1. Ferrous Metallurgical Industries
   - Integrated Iron and Steel
   - Ferro-alloys
   - Special Steels
2. Non-ferrous metallurgical Industries
   - Primary Metallurgical Industries, namely, zinc, lead, copper, manganese and aluminium
3. Foundries (ferrous and non-ferrous)
   - Castings and forging including cleaning or smoothing/roughening by sand and shot blasting
4. Coal (including coke) industries
   - Coal, Lignite, Coke, etc.
   - Fuel Gases (including Coal Gas, Producer Gas, Water Gas)
5. Power Generating Industries
6. Pulp and paper (including paper products) industries
7. Fertiliser Industries
   - Nitrogenous
   - Phosphatic
   - Mixed
8. Cement Industries
   - Portland Cement (including slag cement, puzzolona cement and their products)
9. Petroleum Industries
   - Oil Refining
   - Lubricating Oils and Greases
10. Petro-chemical Industries
11. Drugs and Pharmaceutical Industries
   - Narcotics, Drugs and Pharmaceuticals
12. Fermentation Industries (Distilleries and Breweries)
13. Rubber (Synthetic) Industries
14. Paints and Pigment Industries
15. Leather Tanning Industries
16. Electro-plating Industries
17. Chemical Industries
   o Coke Oven by-products and Coaltar Distillation products
   o Industrial Gases (nitrogen, oxygen, acetylene, argon, carbon dioxide, hydrogen, sulphur dioxide, nitrous oxide, halogenated hydrocarbon, ozone, etc.)
   o Industrial Carbon
   o Alkalies and Acids
   o Chromates and dichromates
   o Leads and its compounds
   o Electrochemicals (metallic sodium, potassium and magnesium, chlorates, perchlorates and peroxides)
   o Electrothermal produces (artificial abrasive, calcium carbide)
   o Nitrogenous compounds (cyanides, cyanamides and other nitrogenous compounds)
   o Phosphorous and its compounds
   o Halogens and Halogenated compounds (Chlorine, Flourine, Bromine and Iodine
   o Explosives (including industrial explosives and detonators and fuses)
18. Insecticides, Fungicides, Herbicides and other Pesticides Industries
19. Synthetic Resin and plastics
20. Man-made Fibre (Cellulosic and non-cellulosic) Industry
21. Manufacture and repair of electrical accumulators
22. Glass and Ceramics
23. Grinding or glazing of metals
24. Manufacture, handling and processing of asbestos and its products
25. Extraction of oils and fats from vegetable and animal sources
26. Manufacture, handling and use of benzene and substances containing benzene
27. Manufacturing processes and operations involving carbon disulphide
28. Dyes and Dyestuff including their intermediates
29. Highly flammable liquids and gases
List of Notifiable diseases

1. Lead poisoning including poisoning by any preparation or compound of lead or their sequelae.
2. Lead tetra-ethyl poisoning.
3. Phosphorous poisoning or its sequelae.
4. Mercury poisoning or its sequelae.
5. Manganese poisoning or its sequelae.
6. Arsenic poisoning or its sequelae.
7. Poisoning by nitrous fumes.
8. Carbon bisulphide poisoning.
9. Benzene poisoning, including poisoning by any of its homologues, their nitro or amido derivatives or its sequelae.
10. Chrome ulceration or its sequelae.
11. Anthrax.
12. Silicosis.
13. Poisoning by halogens or halogen derivatives of the hydrocarbons, of the aliphatic series.
14. Pathological manifestation due to :
   a. radium or other radioactive substances.
   b. X-rays.
15. Primary epitheliomatous cancer of the skin.
17. Toxic jaundice due to poisonous substances.
18. Oil acne or dermatitis due to mineral oils and compounds containing mineral oil base.
20. Asbestosis.
21. Occupational or contact dermatitis caused by direct contact with chemical and paints. These are of types, that is, primary irritants and allergic sensitizers.
22. Noise induced hearing loss (exposure to high noise levels).
23. Beryllium poisoning.
24. Carbon monoxide.
25. Coal miners’ pneumoconiosis.
27. Occupational cancer.
28. Isocyanates poisoning.
29. Toxic nephritis.
Annexure III

List III—Concurrent List under Seventh Schedule of the Constitution of India

1. Criminal law, including all matters included in the Indian Penal Code at the commencement of this Constitution but excluding offences against laws with respect to any of the matters specified in List I or List II and excluding the use of naval, military or air forces or any other armed forces of the Union in aid of the civil power.

2. Criminal procedure, including all matters included in the Code of Criminal Procedure at the commencement of this Constitution.

3. Preventive detention for reasons connected with the security of a State, the maintenance of public order, or the maintenance of supplies and services essential to the community; persons subjected to such detention.

4. Removal from one State to another State of prisoners, accused persons and persons subjected to preventive detention for reasons specified in entry 3 of this List.

5. Marriage and divorce; infants and minors; adoption; wills, intestacy and succession; joint family and partition; all matters in respect of which parties in judicial proceedings were immediately before the commencement of this Constitution subject to their personal law.

6. Transfer of property other than agricultural land; registration of deeds and documents.

7. Contracts, including partnership, agency, contracts of carriage, and other special forms of contracts, but not including contracts relating to agricultural land.

8. Actionable wrongs.


10. Trust and Trustees.
11. Administrators-general and official trustees.
[11A. Administration of Justice; constitution and organization of all courts, except the Supreme Court and the High Courts.]

12. Evidence and oaths; recognition of laws, public acts and records, and judicial proceedings.

13. Civil procedure, including all matters included in the Code of Civil Procedure at the commencement of this Constitution, limitation and arbitration.

14. Contempt of court, but not including contempt of the Supreme Court.

15. Vagrancy; nomadic and migratory tribes.

16. Lunacy and mental deficiency, including places for the reception or treatment of lunatics and mental deficient.

17. Prevention of cruelty to animals.

17A. [Forests]

17B. Protection of wild animals and birds.]

18. Adulteration of foodstuffs and other goods.

19. Drugs and poisons, subject to the provisions of entry 59 of List I with respect to opium.

20. Economic and social planning.

[20A. Population control and family planning.]

21. Commercial and industrial monopolies, combines and trusts.

22. Trade unions; industrial and labour disputes.
23. Social security and social insurance; employment and unemployment.

24. Welfare of labour including conditions of work, provident funds, employers’ liability, workmen’s compensation, invalidity and old age pensions and maternity benefits.

[25. Education, including technical education, medical education and universities, subject to the provisions of entries 63, 64, 65 and 66 of List I; vocational and technical training of labour.]

26. Legal, medical and other professions.

27. Relief and rehabilitation of persons displaced from their original place of residence by reason of the setting up of the Dominions of India and Pakistan.

28. Charities and charitable institutions, charitable and religious endowments and religious institutions.

29. Prevention of the extension from one State to another of infectious or contagious diseases or pests affecting men, animals or plants.

30. Vital statistics including registration of births and deaths.

31. Ports other than those declared by or under law made by Parliament or existing law to be major ports.

32. Shipping and navigation on inland waterways as regards mechanically propelled vessels, and the rule of the road on such waterways, and the carriage of passengers and goods on inland waterways subject to the provisions of List I with respect to national waterways.

[33. Trade and commerce in, and the production, supply and distribution of,—

(a) the products of any industry where the control of such industry by the Union is declared by Parliament by law to be expedient in the public interest, and imported goods of the same kind as such products;

(b) foodstuffs, including edible oilseeds and oils;]
(c) cattle fodder, including oilcakes and other concentrates;

(d) raw cotton, whether ginned or unginned, and cotton seed; and (e) raw jute

[33A. Weights and measures except establishment of standards.]

34. Price control.

35. Mechanically propelled vehicles including the principles on which taxes on such vehicles are to be levied.

36. Factories.

37. Boilers.

38. Electricity.


40. Archaeological sites and remains other than those

41. Custody, management and disposal of property (including agricultural land) declared by law to be evacuee property.

42. Acquisition and requisitioning of property.

43. Recovery in a State of claims in respect of taxes and other public demands, including arrears of land-revenue and sums recoverable as such.

44. Stamp duties other than duties or fees collected by means of judicial stamps, but not including rates of stamp duty.
45. Inquiries and statistics for the purposes of any of the matters specified in List II or List III.

46. Jurisdiction and powers of all courts, except the Supreme Court, with respect to any of the matters in this List.

47. Fees in respect of any of the matters in this List, but not including fees taken in any court.
Annexure-IV
Questionnaire

Title: Occupational microbial diseases to the workers in pharmaceutical and bulk drug industries in relation with various labour legislations

Primary Sample Data Form: Date:

1. Name and address of Pharmaceutical unit:

2. Type of manufacturing products: Liquid oral/ Tablets / Capsules/Injections/Ointments/Bulk drugs

3. Number of employees: Male: Female: Total:

4. Number of employees working in manufacturing process/activities: Male: Female: Total:
5. Number of employees working in Quality Control / Quality Assurance department:
   Male:
   Female:
   Total:

6. Number of employees working in Packing department:
   Male:
   Female:
   Total:

7. Number of employees working in D.M. Plant / department:
   Male:
   Female:
   Total:

8. Number of employees working in Store / Material Dispensing department:
   Male:
   Female:
   Total:

9. Details of health aspects of the workers working in the manufacturing process:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Manufacturing department (Products)</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>
10. Details of health aspects of the workers working in the Quality Control / Quality Assurance Department:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>QC/QA department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

11. Details of health aspects of the workers working in the Packing Department:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Packing department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

12. Details of health aspects of the workers working in the D.M. Plant / Department:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Packing department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

13. Details of health aspects of the workers working in the Effluent treatment Plant / Department:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Packing department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

14. Details of health aspects of the workers working in the Chilling Plant / Air conditioning plant:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Packing department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>
15. Details of health aspects of the workers working in the manufacturing process: Trade Union / Employees Association’s view / perspective

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the Trade union / Employee’s Association</th>
<th>Membership Since last three years</th>
<th>Name of the Pharmaceutical unit and department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

16. Details of health aspects of the workers working in the manufacturing process: Employer / Employers Association’s view / perspective

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the Trade union / Employee’s Association</th>
<th>Membership Since last three years</th>
<th>Name of the Pharmaceutical unit and department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

17. Views of the Health department / Panel Doctor on duty of the Pharmaceutical unit:

18. Views of the Personnel department of the Pharmaceutical unit:

19. Whether Company has own Effluent treatment Plant or releasing the effluent in common effluent treatment plant of G.I.D.C?

20. The Details of Biological Oxygen Demand (B.O.D.) and Chemical Oxygen Demand (C.O.D.) of treated water
21. Whether Company is registered under ESI Act?  Yes / No

22. Details of number cases for ESI claims in Last three years.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Name of the department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

23. Whether the Company has Medical Insurance?  Yes / No

24. Details of number cases for Mediclaim in Last there years.

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Name of the worker</th>
<th>Working Since last three years</th>
<th>Name of the department</th>
<th>Sick leaves availed in last three years</th>
<th>Reasons for the sick leaves</th>
</tr>
</thead>
</table>

Introduction

The prevailing set of labour laws do take care of the welfare and health aspects of the workers working in pharmaceutical, chemical industries and such hazardous industrial units, however, the occupational diseases do develop either due to the side effects of the chemicals, working conditions or due to unhygienic working conditions which results in to the microbial infections or allergies resulting into chronic diseases. The treated effluents also some time create health related issues in the community and in animals residing in the nearby area.

The number of occupational diseases have been identified and enlisted in the labour laws and also provisions have been made to compensate the loss in income due to such occupational diseases. However it is the need of the day to have more studies, research in the area potentially prone for occupational diseases. The most of the studies have been made in the area of occupational diseases is mainly based on the nature of products, raw materials, nature of process etc.

Very few studies have been undertaken in the area of occupational diseases being contracted out due to poor working conditions, unhygienic working conditions by. Further, the present labour laws do not expressively mention about the invasion of microbial diseases due to working conditions at work place and therefore no remedial measures to prevent it. Therefore, it is the need of the day to study working conditions at workplace and the health aspect of workers to know whether any microbial diseases is being contracted out due to prolong work in pharmaceutical / bulk drug units and if need be the prevailing labour laws may be amended accordingly. Moreover, the treated effluent also some time creates health related issues in the community and in animals residing in the nearby area.

The Indian Constitution of and concept of social justice

The Indian Constitution enshrines the idea of social justice as one of the objectives of the State. Article 38 - Provides that State to secure a social order for the promotion of the welfare of the people. Article 39 - Provides that Certain principals of the policy to be followed by the State shall, in particular, direct its policy towards securing an adequate means of livelihood, the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength etc. Article 42 - Provides for Provision for just and humane conditions of work and maternity relief. The State shall make provision for securing just and humane conditions of work and for maternity relief and Article 43 - Provides for Living wage etc. for workers.

The Seventh Schedule provides for Union List, State List and Concurrent List. The subject Labour is in the Concurrent List of the Seventh Schedule under the provisions of the Article 246 of the Constitution of India. The Concurrent list provides for making suitable legislations both by the State and Union Government for the Social Security, Social insurance, Welfare of labour including conditions of work. Provident fund, employer's liability, women's compensations, invalidity and old age pensions and maternity benefits.

International Labour Organization (ILO) and Ratification on Occupational injury and Diseases

Historically as we know, India is the one of the pioneering member Countries to the International Labour Organization, a tri-partite body consisting of representatives of Employer organizations, representatives of Employees Organization and representatives of the Government of the member Countries. The International Labour Organization in 1964 resolved the convention No-121 concerning Benefits in the Case of Employment Injury - Convention C121 was adopted at Geneva in 48th ILC session (08 Jul 1964). Convention No-155 - Occupational Safety and Health Convention, 1981 (No. 155) was adopted on 22nd June, 1981 in 67th Session of the governing body of International Labour Organization. The International Labour Organization (I.L.O) in the meeting of experts on the Revision of the List of Occupational Diseases (Recommendation No. 194) submitted that according to the
**Legislative framework**

The Employees Compensation Act, 1923 (Earlier the Workmen Compensation Act, 1923) and the Employees State Insurance Scheme Act 1948 provides for the different types of occupational diseases being contracted out by workmen in different employments and also for compensation as a part of loss of income due to such occupational diseases. How ever, it takes long time in identifying such diseases. The term Occupational diseases covers any disease contracted as a result of an exposure to risk factors arising from work activity. Various occupational diseases have been identified under the provisions of the Employees Compensation Act, 1923 and the Employees State Insurance Scheme Act 1948. These diseases are listed in Part A, B and C of the said Acts. The Employees State Insurance Act, 1948 provides for the definitions for the term employment injury, permanent partial disablement and permanent total disablement.

The Factories Act, 1948 defines hazardous process in relation to an industry specified in the Schedule I where, unless special care is taken, raw materials used therein or the intermediate or finished products, by-products, wastes or effluents thereof would cause material impairment to the health of the persons engaged or connected or result in the pollution of the general environment. The Schedule II of the Factories Act, 1948 provides for Notifiable diseases.

The Factories Act, 1948 and the Contract Labour (Regulation and Abolition) Act, 1970 provides for express provisions of health, welfare and safety of workers, being implemented at workplace.

**Methodology**

The Gujarat is among the highly industrial states in the country. 18.2% of the total workforce of the State is employed in these industries as compared to 7% industrial employment at National level (NSSO 2004-05). The Gujarat is the hub of pharmaceutical, bulk drug and chemical industries and also shares the highest percentage of hazardous industrial units in the country. The Gujarat State accounts for 40% of pharmaceutical production and total 3507 manufacturing units engaged in manufacturing of Allopathic, Ayurvedic, Homeopathic drugs & Cosmetics.

1. **The primary data of Pharmaceuticals**
   - bulk drug industries located from different parts of the State and workers working in these units was collected. The data collected include; Name of unit, products manufactured, number of workers employed, details of health aspects of the workers, Views of the Trade Unions/ the Employer’s Association regarding health of the workers working to know whether workers do acquire any microbial diseases on prolong working with such units. The implementation of the provisions of health, welfare and safety as per the Factories Act, 1948 and the Contract Labour (Regulation and Abolition) Act, 1970 and whether such units is registered under the provisions of the Employees State Insurance Scheme Act 1948 or otherwise covered under the Workmen’s Compensation Act, 1923.

2. **The secondary data from the employees State Insurance Corporation** under the provisions of the Employees State Insurance Scheme Act 1948 and case study under the provisions of the Workmen’s Compensation Act, 1923 have been collected with respect to occupational diseases acquired by workers due to microbial infections at work place.

3. **The secondary data from the National Institute of Occupational Health (NIOH)** which is traditionally focused on under-served workers and those without access to occupational health care, in addition to providing a referral centre for access to expertise in a wide variety of occupational health disciplines have been collected.

4. **The secondary data regarding implementation of standards for releasing the treated effluent, as fixed by the Gujarat Pollution Control Board** have been collected.

5. **The secondary data regarding implementation of provisions of existing labour laws related to health, welfare and safety of workers** have been collected.

**Result**

- The units covered as samples are mainly involved in manufacturing of tablets, liquid orals, capsules, ointments, injections and bulk drugs. The workers working since more than 2 years were approached to know whether they have acquired any microbial diseases due to prolong work with the given unit?

*It was revealed on interaction with them that except routine illness like fever, common cold etc. no such occupational diseases have been contracted out.*

- It was revealed on interaction with the trade unions that except routine illness no such occupational diseases have been noticed.

- The data collected of units registered under the provisions of the Employees State Insurance Scheme Act 1948 show that no occupational diseases have been found in workers due to microbes in such units.

- The secondary data regarding implementation of standards for releasing the treated effluent, as fixed by the Gujarat Pollution Control Board have been...
collected from the Gujarat State Pollution Control Board indicate that manufacturers of Pharmaceutical and bulk drugs maintain the standards as per the Gujarat Pollution Control Act. It was revealed that no casualties to human life and cattle have been found due to release of untreated discharge from such units.

- The secondary data from the National Institute of Occupational Health (NIOH), which is known for exclusive study on 'Occupational Diseases in Industries' have submitted that the said institute has not undertaken study with regards to occupational diseases due to microbes in pharmaceutical and bulk drug units.
- The implementation of the provisions of the health, welfare and safety under labour laws was found in order.

Discussion and Recommendation

(1) The study reveals that the Quantum of ESIC dispensarys and hospitals should be in proportion to the strength of workers in all the industrial area of the State.
(2) The study reveals that it is the need of the day to simplify the procedure notifying all the industrial area under the ESIC Act, 1948 and also the management of the Employees State Insurance Scheme Act 1948 should be professionalized.
(3) The present study reveals that it is a need of the day to work out comprehensive insurance package including occupational injury / diseases for all workers working in industries.
(4) It is suggested to have comprehensive insurance package including occupational injury / diseases for all workers working in industries, where the ESIC Act, 1948 is not applicable.
(5) The efforts for compliance of the provisions related to health, welfare and safety should continue by stringent implementation of the Factories Act, 1948 and the Contract Labour (Regulation and Abolition) Act, 1970.
(6) It is recommended for setting up of State Level Safety University or Institute so as to provide safety related under Graduate and Post Graduate Courses.
(7) It is suggested to have at least two to three institutes like NIOH in the industrially developed area mainly chemical zones in the State to study the different occupational diseases being contracted out to the workers in different industries.
(8) It is revealed from the study that there should be either Central or State sponsored rehabilitation schemes for workers having acquired occupational diseases in convergence and coordination with the different line departments of the State Government.
(9) It is suggested for awareness generation drives on occupational safety and hazards, with participation of all concerned stake holders.

REFERENCE

1 Concurrent List-The seventh schedule of the Constitution of India
3 The Employees Compensation Act, 1923-Act No:8 of 1923 and revised periodically.
4 The Employees State Insurance Scheme Act 1948-Act-No:34 of 1948 and revised periodically.
5 Employment injury- Section 2 (8) of the Employees State Insurance Act, 1948
6 permanent partial disablement- Section 15 -A of the Employees State Insurance Act, 1948
7 permanent total disablement- Section 15 -B of the Employees State Insurance Act, 1948
8 hazardous process- Section 2(cb) of the Factories Act,1948
9 Notifiable diseases-Schedule II of the Factories Act, 1948 provides for the list of notifiable diseases.