

PRECAUTIONARY MEASURES FOLLOWED DURING HANDLING OF AGROCHEMICALS

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Agrochemical can induce poison to the people, pets and all the biodiversity system if improperly used. It is necessary to maintain careful and continuous manage over the use and handling of Agrochemicals during the time of transport, storage in godown, mixing with water, loading in sprayer, application in field and disposal without any contamination. Care must be exercised in cleaning pesticide sprayer and other instruments, wearing clothes and particularly pesticides handling persons. This article explains about the precautionary measures followed during handling of Agrochemicals.

DEFINITION – AGROCHEMICAL

The term agrochemical refers to the broad range of pesticides, including insecticides, herbicides, fungicides and nematicides. The term may also include synthetic fertilizers, plant growth hormones.

TYPES OF AGROCHEMICALS

Pesticide - Any chemical can able to inhibit or kill the pest

Fungicide – Any chemical can able to inhibit or kill the fungi

Bactericide - Any chemical can able to inhibit or kill the bacteria / Antibiotic

Viricide - Any chemical can kill the virus

Algicide / Algaecide - Any chemical can able to inhibit or kill the algae / Phycocide

Insecticide – Any chemical can able to inhibit or kill the insect

Rodenticide - Any chemical can kill the rats

Herbicide – Any chemical can able to inhibit or kill the weeds

Nematicide - Any chemical can able to inhibit or kill the nematodes

Molluscicides - Any chemical can able to inhibit or kill the molluscs like snails and slugs

Acaricide - Any chemical can able to inhibit or kill the mites / Miticide

Bio-pesticide - Any biological product can able to inhibit or kill the pest

Fumigant - Any chemical can used as a Fumigation purpose

Fertilizer – Any chemical can used as promotion of crop growth

Desiccants – Any chemical employed to dry up living plant tissues

Defoliants – Any chemical cause dropping of leaves in plants

Ovicides – Any chemical employed to control eggs of insects and mites

Pheromones – They are biologically active chemicals which used to attract insects or disrupt their mating behavior. The chemical ratio in the mixture is often species-specific

Plant Growth Regulators – Compounds used to alter the plant growth

Repellents – It is used to repel unwanted pests, often by taste or smell

Wood Preservatives – Chemicals which make wood resistant to insects, fungus and other pests

AGROCHEMICAL TRANSPORTATION

Agrochemicals can present a particularly severe injuries if they are involved in accidents during transportation. When the people transport Agrochemical, you are legally responsible for them.

1. Agrochemicals are most carefully transported in the beds of trucks.
2. Agrochemicals should never be transported in Bus or any passenger transporting vehicle.
3. Agrochemicals should never be transported in the same compartment with any food items.
4. Agrochemical containers made of paper or similar materials should be protected from moisture during shifted time.

AGROCHEMICALS STORAGE

1. Always store agrochemical in their original and labelled container.
2. Always store agrochemicals in tightly sealed pack and check containers regularly for leakage and corrosion breaks etc.
3. Always store agrochemical where they are protected from overcooling or over temperature.
4. Agrochemicals storage in well-ventilated places.
5. Agrochemicals storage in different areas/ places, to prevent contamination.
6. Never store agrochemicals in old bottles.

7. At any cost, never store pesticides near human or pets' food, animal feed or crop seed.

MIXING AND LOADING OF AGROCHEMICALS

1. Before handling of agrochemical, read the instructions in agrochemical bottle / pack label.
2. After that identification of suitable sprayer, protective clothing, protective equipment's for spraying the particular agrochemical.
3. Mix the agrochemical in outdoor place, where there is good ventilation.
4. Measure the agrochemical accurately based on the recommendation.

AGROCHEMICAL SPRAYING

1. Check the sprayer or duster any leakage.
2. Calibrate your sprayer concentration before use.
3. Before the agrochemical application spraying starts, clear all animals and people from the spraying area.
4. Apply the agrochemical at the recommended concentration.
5. Apply agrochemical only at the correct weather time. Avoid applying agrochemicals when the cool or temp. are extremely high or low.
6. Do not contaminate food or feed with agrochemical through careless application methods.

SPRAYER / DUSTER EQUIPMENT CLEANING

After spraying of any agrochemical, immediately wash the sprayer and mixing, loading and application instruments including nozzles. Upto that time wearing the suitable personal protective equipment.

IMPORTANT PRECAUTIONARY MEASURES

1. Identifying the crop biotic or abiotic stress problem.
2. Recommended agrochemical, dosage, suitable sprayer, time of application are received from Agricultural experts.
3. Use agrochemicals only if it has exceeded the Economical Injury Level (EIL).
4. The spraying person must be trained from experts.
5. Purchase the exact agrochemical and do not purchase any damaged pack or containers.
6. Use only the recommended agrochemicals which is the least toxic.
7. Always read the agrochemical label before spraying.
8. Wash contaminated skin and clothing during the time of mixing and after spraying of agrochemical.
9. To keep agrochemical pack or containers out of the reach of children.
10. Use suitable instrument/ equipment for measuring and mixing of agrochemical.
11. Never scoop or stir agrochemicals with our normal hands.
12. Always spray the agrochemical at the wind direction side.
13. Pour agrochemical carefully to avoid spoilage and splashes.
14. Do not use leaking or defective sprayer.
15. Clean and check sprayer or duster at the end of each day's activity.
16. Do not spray the agrochemical on rainy day.
17. Wash all clothing and spraying equipment after each day's activity.
18. Do not blow out clogged spraying nozzles with the mouth and clean the nozzle with normal water spraying.
19. Obey the agrochemical label instructions and place the name board to indicate this spraying.
20. Look for warning symbols, pictograms and color coding on agrochemical pack or containers.
21. Use gloves protect the hands when applying the agrochemical particularly granules.
22. Start chemical spraying near the downwind edge of the field and proceed upwind so that spraying person moves into unsprayed area.
23. Avoid skin contamination particularly eyes and mouth.
24. Never eat, chewing, drink or smoke when mixing or applying agrochemicals.
25. Use eye and face protective equipment during the time of agrochemical spraying.
26. Never empty the agrochemical container or bottle into river or irrigation canals or ponds.
27. Never leave unused agrochemicals in sprayers.
28. Disposal of agrochemical pack or containers with carefully.
29. Always clean spraying or dusting equipment properly.
30. After using the sprayer or duster equipment, oil it and then keep away in store room.

AGROCHEMICAL POISONING SYMPTOMS

Nausea, headache, dizziness, chest discomfort, skin blisters, diarrhea, blurred vision.

AGROCHEMICAL ADVANCED POISONING SYMPTOMS

Vomiting, difficult breathing, dilated pupils and unconsciousness.

FIRST AID MEASURES FOR AGROCHEMICAL POISONING

1. Repeal the person from the contaminated environment.
2. In the event of skin contact, remove all contaminated clothing and promptly wash the affected area with plenty of water and soap.
3. In case of eye contamination, wash the eyes thoroughly with plenty of cool and clean water.
4. Expose the person to open fresh air and loosen the clothes around neck and chest when agrochemical was consumed.
5. Do not allow for consuming milk, alcohol and any fatty substances.
6. In case of difficulty in breathing, give mouth-to-mouth or mouth-to-nose breathing.
7. Take the patient to the Primary Health Centre (PHC) immediately. Original agrochemical container, leaflet and label should bring to hospital for necessary treatment.