



GOVERNMENT OF KHYBER PAKHTUNKHWA
CLIMATE CHANGE, FORESTRY, ENVIRONMENT
AND WILDLIFE DEPARTMENT
(SECTION ENVIRONMENT)

NOTIFICATION

Peshawar Dated the 25/07/2025

No. SO(ENVT)/CCFE&WD/1-8/EPC-2025: In exercise of powers conferred under Clause xxii of Section 7 of the Khyber Pakhtunkhwa Environmental Protection Act, 2014, (Khyber Pakhtunkhwa Act No. XXX of 2022), the Khyber Pakhtunkhwa Environmental Protection Council (EPC) in its 3rd Meeting held on 13.05.2025 has been pleased to approve the following guidelines for General Environmental Approval (GEA);

GUIDELINES FOR THINNER BELOW 10,000 GALLONS PER ANNUM

INTRODUCTION:

Thinner is a volatile solvent that is used to thin or dilute various substances such as paints, varnishes and adhesives. Common solvents used as thinner chemicals include mineral spirits, mineral and true turpentine, acetone, naphtha, toluene, methyl ethyl ketene, glycol ethers and xylene.

Thinner solvents are typically characterized by their high volatility (readily evaporate), low boiling point, good solvency power for resins and paints, and often contain a mixture of hydrocarbons like toluene, xylene, acetone, and mineral spirits, making them flammable and requiring careful handling due to their potential health hazards when inhaled or exposed to skin.

There are three main types of thinner, Paint thinner, nail polish thinner and wood finish thinner

Commercially thinner uses in the thinning of paints and coatings, cleaning of various surfaces, removing of old finishing and dissolving grease and grime

The process of thinner manufacturing can be summarized as follows:

The manufacturing process of thinner involves the blending of various solvents and additives to produce a mixture that meets specific requirements. The raw materials are mineral sprite, Turpentine, Acetone, Toluene, Xylene and additives (e.g. anti foaming agents, stabilizers) blended together in a specific ratio to create the desired thinner mixture. The blended mixture mix thoroughly and filtered to remove the impurities or contaminants.

The final product tested for its properties such as viscosity, flush points and solvent power and then filled into containers such as cans, drums or tanks for distribution

Machineries used in the manufacturing and processing of thinner:

- Agitated Tanks



- Static mixers
- High speed mixers
- Plate and frame filters
- Cartridge filters
- Centrifugal filters
- Drums filling machines
- Can filling Machines
- Tote filling machine

Environment Concerns with manufacturing and processing of thinner

Thinner manufacturing and processing can have significant environmental impacts. Here are some of the key environmental issues:

Air Pollution:

1. Volatile Organic Compounds (VOCs): Thinner manufacturing releases VOCs, contributing to air pollution and smog formation.
2. Particulate Matter: Processing and handling of thinner can generate particulate matter, affecting air quality.

Water Pollution:

1. Chemical Contamination: Thinner manufacturing can contaminate water sources with chemicals like solvents, heavy metals, and other pollutants.
2. Wastewater Generation: Processing and cleaning of equipment can generate wastewater, which may contain hazardous chemicals.

Soil Pollution:

1. Chemical Spills: Accidental spills or leaks during thinner manufacturing and processing can contaminate soil and groundwater.
2. Waste Disposal: Improper disposal of thinner waste can lead to soil pollution.

Health Risks:

1. Respiratory Problems: Inhaling thinner fumes can cause respiratory problems, such as asthma and other breathing difficulties.
2. Cancer Risk: Exposure to certain chemicals in thinner manufacturing has been linked to an increased risk of cancer.

Climate Change:

1. Greenhouse Gas Emissions: Thinner manufacturing releases greenhouse gases, contributing to climate change.
2. Energy Consumption: Processing and manufacturing thinner require significant energy, which can lead to increased greenhouse gas emissions.



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Hazardous Waste:

Thinner manufacturing generates hazardous waste, which requires special handling and disposal.

To mitigate these environmental issues, thinner manufacturers can adopt sustainable practices, such as:

1. Implementing cleaner production technologies
2. Reducing energy consumption and greenhouse gas emissions
3. Implementing waste minimization strategies can help reduce the environmental impact
4. Using alternative, eco-friendly solvents
5. Improving waste management and recycling practices
6. Enhancing employee training and safety protocols

The following mitigation measure should be adopted for Handling, Storage, Transportation and Unloading of the thinner less than 10000 gallon per annum

1. Storage in well-ventilated area
2. Store away at least 50 feet from living area like office, residential room etc.,
3. Store at least 100 feet away from heat sources, sparks and open flame
4. Store thinner in a shaded area or use UV resistant containers
5. Store in a container specifically designed for flammable container
6. Ensure containers have tight fitting lids to prevent vapors from escaping
7. Labeled the containers with the contents (thinner) with warning sign (flammable, hazardous)
8. Placed the thinner container in secondary containment system such as spill try or drum
9. Store away from incompatible materials that may react with it such as strong acid and bases
10. Store in cool and dry place with temperature range from 15°C-27°C
11. Divide the larger quantities of thinner in to smaller containers to reduce the risk of accident
12. The condition of the thinner container should be checked on quarterly bases for sign of damage, corosions or leaks etc.,
13. Keep the storage area clean, organized and free from debris.
14. Fire hydrant system shall be installed.
15. Earthing/bonding shall be provided for static charges.
16. Only authorized person shall be permitted in storage tank area.
17. Provision of flame proof electrical fittings / equipment's.
18. Strict enforcement of no smoking and other ignition source nearby storage area.
19. Adequate number of caution boards highlighting the hazards of chemicals should be provided at critical locations.
20. Installation of impervious asphalt or concrete surfaces with polyethylene sheeting underneath in areas of potential leaks and spills, including below gauges, pipes, pumps and below truck loading / unloading areas.
21. Above Ground Storage Tanks should be located in a secure area, protected from potential collisions by vehicles, vandalism, and other hazards.



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**FORMAT OF GEA REPORT TO BE FILLED BY THE PROONENT
OR VISITING OFFICER.**

File No. _____

Date _____

General Information

1. Project Name or Title _____
2. Project Proponent (Department, organization, or owner) _____
3. Address _____
4. Telephone _____
5. E-mail _____
6. Representative of the Proponent _____
7. Designation _____
8. Name of the person who conducted this assessment _____
9. Designation _____

Project Information

10. Project Location & GPS Coordinates _____

11. Cost of the Project _____

12. Area of the proposed land for the project

Total _____ m²

Proposed covered _____ m²

Open space _____ m²

13. Brief Project Description _____

14. Design production capacity of the unit _____

15. Number and type of qualification of required staff to run the project? _____



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Construction

16. Who owns the proposed land for the project? _____

17. What is the present use of the land? _____

18. Are there any settlements on the land? _____

19. If yes, please specify

Number of settlements _____

Will any compensation be paid to them? _____

20. Are there any structures on the proposed site now? Yes No

21. Are there any trees on the proposed site? Yes No

22. Will any tree be removed? Yes No

23. If yes, how many? _____

24. Period of construction (start and end dates) _____

25. Is construction work during the night planned? Yes No

26. Is the proposed project located in an ecologically sensitive area? Yes No

Please specify and explain

27. What type of HSE equipment is needed or shall be supplied.

Details and numbers

28. Is there any sensitive receptor near the proposed project ?

Yes

No

If yes, write in detail:

29. Are there any reserved forest or protected area within 1,00 m of the proposed site?

Yes

No

If yes, please describe? _____

30. What is the present land use in the vicinity (roughly a radius of 100 m) of the proposed site?



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	Residential (Thick, Moderate, Sparse)	Commercial (Office, Shops, Fuel Stations)	Open Land (Parks, Farmlands, unutilized plots, barrenland)	Industrial	Other
Description					

31. Roughly, how many houses are within a radius of 100 Ft from the boundary wall of the proposed site?

32. What is the total population of the area? _____

33. What proportion of the houses in the area are *pukka, semi-pukka, and kucha*? _____

What are the main sources of income of the surrounding community?

34. Is there any site of cultural importance (graveyard, shrine, mosque, archeological site) within 100 m of the proposed scheme?

Yes

No

If yes, please describe? _____

Reporting officer

**Decision of Director of
the concerned Directorate**

-sd-

Secretary to Govt. of Khyber Pakhtunkhwa
Climate Change, Forestry, Environment & Wildlife
Department



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Copy for information to;

1. All members of Environmental Protection Council (EPC) Khyber Pakhtunkhwa
2. PS to Secretary Climate Change, Forestry, Environment & Wildlife Department, Khyber Pakhtunkhwa


Muhammad Ishaq
Section Officer (Environment)