



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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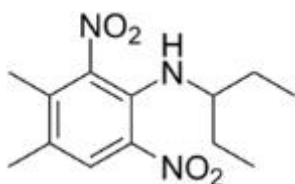
1. Chemical Product Identification

Product Name: Pendimethalin 40% EC

Molecular Formula: C₁₃H₁₉N₃O₄

Molecular Weight: 281.31

Structural Formula:



Chemical Name: N-(1-ethylpropyl)-2,6-dinitro-3,4-xylidine

CAS No.: 40487-42-1

2. Composition / Information on Ingredients

Composition	CAS No.	Content %
Pendimethalin	40487-42-1	40
Other ingredients	--	60

3. Hazards Identification

Emergency Overview: This formulation is considered to be low toxicity. Product may cause eye irritation. Product is brown liquid with aromatic/amine odor.

Warning Statements: Avoid misty conditions and wear proper PPE.

Potential Adverse Health Effects: Pre-existing skin or respiratory disorders may be aggravated by excessive exposure to this material. If product gets into your eyes, there might



be slight irritation. Pre-existing skin disorders may be aggravated by exposure.

Likely routes of Exposure: Dermal, inhalation, ingestion and eyes.

Dermal contact: Prolonged or repeated exposure may be irritating, causing redness and dry skin from the loss of body oil. Be sure to wear the proper protective equipment (PPE), see section 8 to minimize exposure.

Ingestion: This formulation is not likely harmful if small amounts ingested. May have an impact on the central nervous system, cause a headache, fatigue, dizziness, or unconsciousness if extreme exposure. Wear proper PPE to minimize exposure, see section 8.

Eyes: This formulation can cause eye irritation. Wear proper PPE to minimize exposure, see section 8

Inhalation: Breathing spray mist may cause irritation to upper respiratory tract.

Prolonged/excessive exposure may result in central nervous system depression. Wear proper PPE to minimize exposure, see section 8.

Potential Health Effects: Over-exposure to mist may irritate the respiratory tract.

4. First Aid Measures

If swallowed: Call a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling a poison control center or doctor. Do not give anything by mouth to an unconscious person.

If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If inhaled: Move person to fresh air. If person is not breathing, call an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

5. Fire-Fighting Measures

Flash Point: 208°F (Setaflash)

Flammable Limits: None established

Fire Extinguishing Media: Considered non-combustible, use medium appropriate to surrounding fire. Dry chemical, carbon dioxide, Chemical foam, water spray or fog. Special



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Fire Fighting Procedures: Smoke and fumes from fire may contain hazardous components. Wear self-contained breathing apparatus and full protective clothing. Fight fire from upwind and keep all non-essential personnel out of area of intense smoke. Unusual Fire or Explosion Hazards: If water is used to fight fire, contain run-off, using dikes to prevent contamination of water supplies.

6. Accidental Release Measures

Personal precautions: Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment. Environmental precautions: Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water. Cleanup: Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Handling: read the label before use. Ensure adequate ventilation. Keep away from sources of ignition- No smoking. Handle and open container with care. Do not open until ready to use. Once container is opened, contact should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Do not return residues to the storage containers. Avoid all direct contact with the product. Avoid contact with skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Storage: Keep only in the original container in a cool, dry, well-ventilated place from ignition source, heat or flame. Protect containers from physical damage. Product against contamination.

8. Exposure Controls/Personal Protection

Respiratory protection: Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) TC23C Chemical/Mechanical type filter system to remove a combination of particles, gas and vapours. For situations where the airborne concentrations



may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection: Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

Eye protection: Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

General safety and hygiene measures: Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

9. Physical and Chemical Properties

Appearance: Orange homogeneous liquid

Odour: faint odour , nutty

Colour: Orange

PH value: 3~8

Melting point : 54-58

Vapour pressure : 1.94 mPa(25°C)

Specific gravity :0.989g/ml

Solubility: in In water: 0.33 mg/l. (20°C)

In organic solvents: In acetone 700, xylene 628, corn oil 148, heptane 138, isopropanol 77 (all in g/l, 260 C). Readily soluble in benzene, toluene, chloroform, dichloromethane.

Slightly soluble in petroleum ether and petrol.

Flash point: 208°F



10. Stability and Reactivity

Chemical stability: Stable under normal conditions

Conditions to avoid: Avoid all sources of ignition: hear, sparks, open flame. Avoid extreme temperatures. Avoid prolonged exposure to extreme heat. Avoid contamination. Avoid electro-static discharge. Avoid prolonged storage.

Hazardous decomposition: No hazardous decomposition products if stored and handled as prescribed/indicated. Possible thermal decomposition products: Carbon monoxide, carbon dioxide, nitrogen oxide, nitrogen dioxide, hydrocarbons.

11. Toxicological Information

Acute oral LD50 for mouse: 4665 a.i.mg/kg.

Acute dermal LD50 for rat: >5000 a.i.mg/kg.

Inhalation LC50 (4 h) for rat: >6.73 a.i.mg/L.

Skin Irritation: Non-irritating to skin (rabbits).

Eye Irritation: Non-irritating to eyes (rabbits).

Skin Sensitization: Not a skin sensitiser (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: moderate toxicity to birds, acute oral LD50 for Mallard ducks is 1421 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Rainbow trout is 0.196 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 0.147 a.i.mg/L.

Effect on algae: high toxicity to algae, acute 72 hour EC50 for Selenastrum capricornutum is 0.004 a.i.mg/L.

Effect on honeybees: low-moderate toxicity to honeybees, contact acute 48 hour LD50 is 100 a.i.µg/bee, oral acute 48 hour LD50 is >101.2 a.i.µg/bee.

Effect on earthworms: low toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is >1000 a.i.mg/kg.

13. Disposal Considerations



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Contain the spill with absorbent, sweep up spill and if materials can be field applied, then one should consider this option. Check local, state and federal regulations prior to disposal.

14. Transport Information

Not applicable

15. Regulatory Information

Not applicable

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.