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MATERIAL SAFETY DATA SHEET

MSDS No: MSDS/IMI/FG-024

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name	: Pendimethalin Technical
CAS NO	: 40487-42-1
IUPAC Name	: 3,4-Dimethyl-2,6-dinitro- <i>N</i> -pentan-3-yl-aniline
Manufacturer / Supplier	: M/s-Bharat Rasayan Limited 1501, Vikram Tower, Rajendra Place, New Delhi – 110008, INDIA
Emergency Phones	: +91-11-43661120,1104 Fax 43661100

2. COMPOSITION/INFORMATION ON INGREDIENTS

Composition Concentration

- Pendimethalin a.i. 92.00% min.
- Other associates impurities 10.00% max
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3. HAZARDS IDENTIFICATION OF PREPARATION

Stability: Stable

Conditions to Avoid: Avoid all sources of ignition: Heat, sparks, open flame; extreme temperatures; prolonged exposure to extreme heat; contamination; electrostatic discharge; prolonged storage
Incompatibility: Oxidizing agents, strong alkalis
Hazardous Decomposition Products: No hazardous decomposition products if stored & handled as prescribed/indicated.
Hazardous Polymerization: Will not occur

4. FIRST AID MEASURES

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by 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 to 20 minutes. Remove contact lenses, if present, after the first 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 to 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 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor or going for treatment.

5. ACCIDENTIAL RELEASE

Steps to be taken in case of material leak or spill: Contain spills and prevent runoff or entering of waterways. Assure protective equipment is worn. Pick up spills with absorbent material and place in suitable containers. Waste Disposal Method: Dispose of in accordance with Local, State, and Federal Regulations.

6. FIRE-FIGHTING MEASURES

Flash Point: >200°F

Extinguishing Media: Foam, dry extinguishing media, CO₂, water spray

Fire Fighting Procedures: Firefighters should be equipped with self-contained breathing apparatus & turnout gear. Stay upwind.

7. HANDLING AND STORAGE

Handling : Use appropriate (impervious) clothing, gloves and closed

foot ware to prevent the repeated contact with skin.

Use flash proof and dust resistant goggles to prevent the contact with eyes.

Storage : Keep the product in original container tightly closed and correctly labeled. Store in suitable, cool, dry, well ventilated place under lock and key; away from the reach of the children, animals, food and animal feeding stuffs. Store away from the incompatible substances and source of ignition

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Technical protective measures : None

Exposure controls limits : Not Established

Respiratory protection : Wear suitable mask

Hand protection : Wear impervious gloves

Eye protection : Wear flash proof and dust resistant goggles.

Skin protection : Wear impervious clothing and closed foot ware.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N/A

Specific Gravity: 1.17 g/ml

Vapor Pressure: mPa@25°C

% Volatiles: N.K.

Vapor Density: N.K.

Solubility in Water: 0.225 ppm@25°C

pH: N/A

Appearance/Odor: Dark amber solid, mild odor

10. STABILITY AND REACTIVITY

Stability: Stable

Conditions to Avoid: Avoid all sources of ignition: Heat, sparks, open flame; extreme temperatures; prolonged exposure to extreme heat; contamination; electrostatic discharge; prolonged storage

Incompatibility: Oxidizing agents, strong alkalies

Hazardous Decomposition Products: No hazardous decomposition products if stored & handled as prescribed/indicated.

Hazardous Polymerization: Will not occur

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: Long term rat study = substance induced thyroid tumors; long term mice study = no

effect observed; Low human exposure = no carcinogenic risk

Toxicity Data: Oral: LD50 (rat): 3,956 mg/kg;

Inhalation: LC50 (Rat): 320 mg/l

N.F.P.A.: Health: 2; Fire: 1; Reactivity: 1

(Rating: 4-Extreme, 3-High, 2-Moderate, 1-Slight, 0-Insignificant)

Effects of Overexposure: May aggravate existing skin conditions.

Avoid ingestion. Hazardous by inhalation.

Inhalation High vapour concentrations of the solvent while handling the concentrate are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, and may have other central nervous system effects. When applying the product as a spray avoid breathing in spray mist.

Ingestion

The concentrate is of low toxicity if swallowed. If aspirated into the lung, e.g. from vomiting, the presence of solvent may result in chemical pneumonitis or other lung damage.

Skin The concentrate is not considered a serious toxic hazard. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.

Eye

The concentrate may cause irritation after short contact with the eyes, but permanent damage is not anticipated.

Chronic Effects

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Reproductive Toxicity Data indicates no reproductive effects. Data indicates no teratogenic effects.

Mutagenicity Data indicates no mutagenic effects.

Carcinogenicity

A marked depression in body weight and a statistically significant increase in benign thyroid tumors (follicular adenomas) were observed at the highest dose level (5000ppm) in a lifetime (24 month) rat study, not considered to be relevant to humans. (1)

12 ECOLOGICAL INFORMATION

The product is a marine pollutant for sea transport.

Other Precautions Do not contaminate dams, waterways or sewers with this product.

Do not spray in high winds.

Environ. Protection Spray drift can cause damage, read the label for more information.

Acute Toxicity - Fish

Toxic to fish. LC50 (96hr) for rainbow trout is 0.14 mg/l.

LC50 (96hr) for bluegill sunfish is 0.2 mg/l.

LC50 (96hr) for channel catfish is 0.42 mg/l.

Acute Toxicity -

Other Organisms

Dietary LC50 (8d) for bobwhite quail is 4187 mg/kg

LD50 for mallard duck is 10388 mg/kg

Bees: Not toxic to bees. LD50 >100 µg/bee

13. DISPOSAL CONSIDERATION

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed on site (by use according to the label) or at an approved waste disposal facility. Further information can be obtained from the EPA or the equivalent state and local agencies.

CONTAINER DISPOSAL: Completely empty bag into application equipment. Check with EPA, State, and local authorities for the current regulations applicable to your area for disposal of waste containers.

14. TRANSPORT INFORMATION

Transport Information ; Not classified as Dangerous Goods, according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. Storage and Transport Considered non dangerous for road and rail transport (in packaging, including IBCs not greater than 3000 Lt each) by the Australian Code for the Transport of Dangerous Goods by Road and Rail. Ref: ADG7; SP No. AU01.

For bulk shipments as Class 9, use UN 3082, HazChem code 2Z.

UN Number (Sea Transport) 3082

IMO Class/Packing Group

Class 9; Packing Group III

IMO Marine Pollutant

Marine Pollutant

IMO Proper Shipping Name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(contains Pendimethalin)

15. REGULATORY INFORMATION

Product related hazard information:

- Hazard symbols: Xn,N
- R phrases: 20-25-26-50/53
- S Phrases: S2- Keep out of reach of children.
S13-Keep away from food, drink and animal feeding stuffs.
S20/21-When using do not eat,drink or smoke.

S44-In case of accident seeks medical advice.

16. OTHER INFORMATION

The information provided in this MSDS is of general nature not specific for a particular purpose or situation, and believed to be correct and faithful. **M/s-Bharat Rasayan Limited** does not make any warranty or guarantee of any kind regarding fitness or completeness of information. **M/s- Bharat Rasayan Limited** disclaims any liability to the result(s) obtained or arising out of any use of the product or reliance or data/information contained in this MSDS.

Prepared by: Bharat Rasayan Limited: EHS Department

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