

# MATERIAL SAFETY DATA SHEET

**PRODUCT NAME:**

**PENDIMETHALIN 30% EC**

## 1. COMPANY IDENTIFICATION

**JAI SHREE RASAYAN UDYOG LTD;**  
**M-4, ARADHANA BHAWAN,**  
**COMMERCIAL COMPLEX, AZADPUR,**  
**NEW DELHI – 110 033.**  
**Ph: +91-11-4575 0100**  
**Fax: +91-11-4575 0140**

**Trade name:**

PENDIMETHALIN 30% EC

**Active ingredient:**

Herbicide

**Chemical Name :**

Pendimethalin

**CAS No.:**

N-(1-ethylpropyl)-2,6-dinitro-3,4-xylidene (IUPAC).

**Chemical Family:**

40487-42-1

**Chemical Formula:**

2,6-dintroaniline

**Use:**

$C_{13}H_{19}N_3O_4$

A selective pre-emergent emulsifiable concentrate  
Herbicide for the control of annual grasses and  
Broad leaf weeds, as listed, in cotton, ground-nuts  
(Spanish type), kidney and field beans, sunflowers,  
soya-beans, potatoes and tobacco.

**UN no.:**

1993

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous components:**

Pendimethalin

300 g/l plus

Xylene and monochlorobenzene (MCB)

to make QS

**EEC classification:**

Xn,

**R phrases:**

R22, R10.

## 3. HAZARD IDENTIFICATION

**Toxicity class:**

WHO(ai)III; EPA(Formulation)III

**NOEL:**

100mg/kg-2year feeding trials.

**Main hazard:**

Pendimethalin is highly toxic to aquatic organisms.  
Flammable.

**Biological hazards:**

**Eye contact:**

May cause irritation.

**Skin contact:**

May cause irritation.

**Ingestion:**

May cause nausea, vomiting, and diarrhea.

**Inhalation:**

May cause irritation.

## 4. FIRST AID MEASURES

**Main symptoms of acute intoxication are:**

Nausea, vomiting, diarrhea and gastro-intestinal tract  
irritation.

**Inhalation:**

Remove victim to fresh air immediately. Treat  
respiratory difficulty with artificial respiration  
preferably mouth to mouth. Get medical attention  
immediately.

**Skin contact:**

Remove contaminated clothing. Wash affected area  
immediately with soap and large amount water. If  
irritation develops consult a physician.

**Eye contact:**

Wash immediately with large amounts of water.

**Ingestion:**

If irritation develops consult a physician.  
Treat symptomatically and supportively. If vomiting occurs keep head lower than hips to prevent aspiration. Get medical attention immediately. Never give fluids or induce vomiting if patient is unconscious or having convulsions.

**Advice to the physician**

There is no specific antidote.  
Treat symptomatically and supportively in response to reactions from patient.

**5. FIRE FIGHTING MEASURES**

**Extinguishing media:**

Foam, carbon dioxide, dry chemical, and water spray.  
Use as little water as possible. Dike area of fire to prevent pesticide run-off. Do not contaminate personnel or equipment, or handle broken packages or container without protective equipment. Avoid breathing vapours or fumes from burning materials, Control run-off water. If water enters drainage system advise authorities down stream.

**Fires:**

Combustion may produce carbon and nitrogen oxides.

**Hazardous decomposition products:**

**Protective clothing:**

Wear chemical goggles, rubber gloves and impermeable clothing. Wear a pesticide cartridge respirator.

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions:**

Wear suitable protective clothing.

**Environmental precautions:**

Contain run-off to prevent entry into water or drainage systems. Advise water authority if spillage has entered watercourses or drainage systems.

**Large spills:**

Barricade area and consult manufacturer.

**Small spills:**

Clean up with sand, clay, sawdust or other absorbent material and place in suitable fiberboard containers for later disposal. Rinse spill area and tools with soapy water.

**Spill/Leak Procedures:**

For large spills, barricade area and consult manufacturer.

**7. HANDLING AND STORAGE**

**Handling:**

Do not consume food in the work area. Wash hands and exposed skin with soap and water before eating, drinking or smoking after work.

**Storage:**

Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated separate area in original container. Keep away from sources of ignition and protect from exposure to fire and heat. Do not store below 4°C. Segregate from oxidizers.

**8. EXPOSURE CONTROL / PERSONAL PROTECTION**

**OCCUPATIONAL EXPOSURE LIMITS:**

None established by OSHA, NIOSH or ACGIH. Anyway a recommended TLV/PEL of 6mg/m<sup>3</sup> is given for pendimethalin and a TLV of 43g/m<sup>3</sup> for the solvent.

**Engineering control measures:**

Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

**Respirator:**

Use an approved air-purifying respirator. For Emergency conditions use an approved pressure self-contained breathing apparatus.

**Clothing:**

For brief contact wear clean long sleeved impervious body covering.

**Gloves:**

For brief contact wear rubber gloves.

**Eye protection:**

Safety glasses should be sufficient for operations.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:**

Yellow to dark brown liquid.

**Odour:**

Mild aromatic hydrocarbon odour.

**Flammability:**

Flammable.

**Explosive properties:**

Non explosive.

**Flash point:**

31 °C

**Corrosive properties:**

Non corrosive.

**pH:**

Not available.

**Relative density:**

1,060 g/m

**Stability:**

Stable

**10. STABILITY AND REACTIVITY**

**Storage stability:**

Stable under normal storage conditions. Avoid excessive heat and direct sunlight

**Incompatibility:**

Strong alkaline material, acid or oxidizing materials.

**Hazardous decomposition products:**

None under normal storage conditions. Combustion may produce oxides of carbon, nitrogen and hydrochloric acid.

**11. TOXICOLOGICAL INFORMATION**

**Acute oral LD<sub>50</sub> :**

1100 mg/kg

**Acute dermal LD<sub>50</sub>:**

> 2000 mg/kg.

**Acute inhalation LC<sub>50</sub> :**

>320 mg/l

**Acute skin irritation:**

Mild skin irritation.

**Acute eye irritation:**

Mild eye irritation.

**Dermal sensitisation:**

Not a skin sensitizer.

**Carcinogenicity:**

None

**Teratogenicity:**

None

**Mutagenicity:**

None

**12. ECOLOGICAL INFORMATION**

**ECOTOXICOLOGY :**

**Birds:**

Pendimethalin is slightly toxic to birds, with an acute Oral LD<sub>50</sub> of 1421 mg/kg in mallard duck and 8-day dietary LC<sub>50</sub> values of greater than 3149 mg/kg in bobwhite quail, and greater than 10,900 mg/kg in mallard duck .

**Fish LC<sub>50</sub>:**

Pendimethalin is toxic to fish. Rainbow trout: 0,14 mg/l, Blue gill sunfish: 0,2 mg/l

**Daphnia pulex:**

Toxic to Daphnia.

**Earthworms:**

No data available.

**Bees LD<sub>50</sub>:**

>50 µg/Bee (Topical).

#### FATE AND BEHAVIOUR IN SOIL:

##### Rate of degradation :

The product is not subject to microbial degradation. When using according to label instructions, no carry over to subsequent crops is expected. Half-life in soil and water is dependent on soil conditions and is approximately 3 to 4 months.

##### Adsorption/desorption :

The product adsorbs strongly to soil organic matter and clay and does not leach the soil to contaminate ground water.

##### Mobility in soil:

It is practically insoluble in water, and thus will not leach appreciably in most soils, and should present a minimal risk of groundwater contamination.

#### FATE AND BEHAVIOUR IN WATER :

##### Rate and route of degradation :

Pendimethalin is stable to hydrolysis but it is degraded by light in aquatic systems. The product may be removed from water by its strong tendency to bind to sediment and organic matter. It is rapidly degraded in sediment.

#### FATE AND BEHAVIOUR IN AIR :

**Rate and route of degradation :** Slight losses of pendimethalin can result from photodecomposition and volatilisation.

### 13. DISPOSAL CONSIDERATIONS

##### Controlled incineration:

To avoid disposal, all attempts should be made to utilize the product completely, in accordance with its intended and/or registered use. If this is not possible, handle with care, and dispose in a safe manner.

Recommended disposal method for this product is: Incineration. Residues and waste must be disposed of according to local regulations. Do not contaminate ponds, waterways or ditches with chemical or used container.

##### Package product wastes:

Triple rinse containers and pour rinse into spray tank for further use. Container and waste must be disposed of in accordance with local regulations. Do not use empty container for any other purpose.

### 14. TRANSPORT INFORMATION

#### UN NUMBER

1993

#### ADR/IRD

Substance ID no.

1993

Hazard ID no.

33

Label:

3

Item no:

50(c)

Shipping name:

Flammable liquid, n.o.s. (pendimethalin 30%)

#### IMDG/IMO

Shipping name:

Flammable liquid, n.o.s. (pendimethalin 30%)

Packaging group:

III

Label of class:

3 **Marine pollutant.**

#### AIR/IATA

Shipping name:

Flammable liquid, n.o.s. (pendimethalin 30%)

Class

3

Hazard Label

Flammable liquid.

Packaging Group

III

Passenger Aircraft

Y309 (10L), 309 (60L)

Cargo Aircraft

310 (220L)

**Tremcard number:**

30GF1-III

**15. REGULATORY INFORMATION**

**Symbol :**

Xn (Harmful)

**Risk phrases :**

R10,R22 **R10** Flammable.

**R22** Harmful if swallowed.

**Safety phrases:**

S1/2

**S2** Keep out of the of reach of children.

**16. OTHER INFORMATION**

**Prepared by: Danie Fourie**

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 in 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 produces formulations(s) containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.