

Preparation Date 18-Jan-2015

Revision Date 27-Jan-2017

Revision Number 02

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description Pendimethalin 456 g/L CS

Other means of Identification

UN-No UN 3082

Recommended use of the chemical and restriction on use

Recommended use Herbicide

Uses advised against Activities contrary to label recommendations

Details of the Supplier of the Safety Data Sheet

Supplier Address

UPL Limited
Uniphos House, Madhu Park,
Khar (W), Mumbai, India
Tel: +91-(022)- 2646-8000

E-mail address info.in@uniphos.com

Emergency Telephone Number

Company Phone Number +91-(022)- 2646-8000
Emergency telephone number +91-2646-251013, 251223, 250336

2. Hazard Identification

Classification

Acute Toxicity - Oral	Category 5 - (H303)
Aquatic Acute Hazard	Category 1 - (H400)
Aquatic Chronic Hazard	Category 1 - (H410)

Label elements



Signal word Warning

Hazard Statements

H303 - May be harmful if swallowed
H410 - Very toxic to aquatic organism with long lasting effects

Precautionary Statements

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Prevention

P273 Avoid release to the environment.

Response

P312 Call a POISON CENTRE/ doctor or physician if you feel unwell.

P391 Collect spillage.

Storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

Prevention

P501 Dispose of contents/container to an approved waste disposal plant

Other Information

No other hazards known.

3. Composition/Information on Ingredients

Chemical name	CAS-No	W/W %	W/V%
Pendimethalin	40487-42-1	35-40	45.6

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. First aid measures

First-aid measures

Eye contact

Hold eyes open and rinse slowly and gently with water for 15 - 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice attention.

Skin contact

Remove contaminated clothing and shoes immediately, then wash with plenty of water. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned. If skin irritation or rash occurs, get medical attention.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting unless told by physician. If vomiting occurs ensure patient can breathe. Get medical attention, if you feel unwell.

Inhalation

IF INHALED: Immediately remove victim to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. Seek medical attention, if you feel unwell.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects The most important known symptoms and effects are described in the labelling (See section 2) and/or in section 11.

Indication of immediate medical attention and special treatment needed

Notes to physician Treat symptomatically and supportively.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water spray, alcohol-resistant foam, dry chemical or carbon dioxide

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Unsuitable extinguishing media High pressure water jets may scatter and spread fire

Special hazards arising from the substance or mixture

Special Hazard Thermal decomposition can lead to release of irritating or toxic fumes (or gases) in fire.

Hazardous combustion products Carbon oxides, Nitrogen oxides (NO_x)

Protective equipment and precautions for firefighters

Wear self-contained breathing apparatus and protective suit. Use standard firefighting procedures and consider the hazards of involved material.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions Keep away from heat/spark/open flames/hot surfaces. Do not eat, drink or smoke while using this product. Avoid breathing dust/mist/fume/gas /vapors. Avoid contact with skin and eyes. Keep unnecessary people away. Isolate area. Keep out of low areas.

Environmental precautions Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

Methods and material for containment and cleaning up

Methods for Clean-Up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, Sawdust). Follow all label instructions regarding spill clean-up and residual disposal methods.

Reference to other sections Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

7. Handling and Storage

Precautions for safe handling

Handling Avoid contact with skin and eyes. Avoid breathing vapours or mist. Ensure adequate ventilation. Wash thoroughly after handling. Avoid release to environment. Empty containers may contain hazardous residues. Do not reuse empty container.

Conditions for safe storage, including any incompatibilities

Storage Store in accordance with local regulation. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep away from Incompatible material. Do not store in unlabeled containers. Do not store material near food, feed or drinking water.

Incompatible materials Strong acid, bases and oxidizing agents

8. Exposure Controls/Personal Protection

Exposure Guideline Apply technical measures to comply with the occupational exposure limit.

Engineering controls Ensure adequate ventilation, especially in confined areas. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

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Personal protective equipment

Eye/Face Protection

Avoid contact with eyes. Where there is potential for eye contact have eye flushing equipment available. Tightly fitting safety goggles. Face-shield.

Skin/Hand protection

Wear protective gloves/clothing. Long-sleeved clothing

Respiratory protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Local authorities should be advised if significant spillage cannot be contained.

General hygiene considerations

Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Yellow-orange liquid with faint odour
Physical state	Liquid
Odor	Faint odour
Color	Yellow-orange
Odor threshold	No information available

<u>Property</u>	<u>VALUES</u>	<u>Remarks/ Method</u>
pH	7.72 ± 0.04 at 20.3°C	
Melting point/freezing point	No information available	
Boiling Point/Range	No information available	
Flash Point	>90°C	
Flammability (solid, gas)	Not applicable	
Upper/lower flammability or	No information available	
Explosive limit	No information available	
Density/Specific gravity	1.1734 ± 0.021 g/ml	
Vapor density	No information available	
Vapor pressure	No information available	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient: n-octanol/water	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Dust Content	No information available	
Dynamic Viscosity	205.3 cP (mPa.s) at 40.1°C	
Oxidizing properties	No information available	
Explosive properties	No information available	
Surface Tension	50.67 ± 0.24 mN/m	

10. Stability and Reactivity

Reactivity

No reactivity hazards are known

Chemical stability

Stable under normal temperature and conditions.

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Possibility of hazardous reaction

None under normal processing.

Conditions to avoid

Excessive exposure to heat may cause product to decompose.

Incompatible Materials

Strong acid and bases, oxidizing agents

Hazardous decomposition productsThermal decomposition can lead to release of irritating or toxic fumes (or gases) in fire.
Thermal hazardous decomposition products: Carbon oxides, Nitrogen oxides (NOx)**11. Toxicological Information****Information on Toxicological Effects**

LD50 Oral = >5000 mg/kg

LD50 Dermal = >5000 mg/kg

LC50 Inhalation = >5.39mg/L Rat(4 hr) (Maximum achievable concentration - No mortality)

Local effect

Inhalation	Based on available data, classification criteria are not met.
Eye contact	Non-irritant
Skin contact	Non-irritant
Ingestion	May be harmful if swallowed

Chronic toxicity

Skin corrosion/Irritation	Non-irritant
Eye damage/Irritation	Non-irritant
Sensitization	Non-sensitizer
Mutagenic effects	Based on available data, classification criteria are not met.
Carcinogenic effects	Based on available data, classification criteria are not met.
Reproductive effects	Based on available data, classification criteria are not met.
STOT - Single Exposure	Based on available data, classification criteria are not met.
STOT - repeated exposure	Based on available data, classification criteria are not met.
Aspiration hazard	Based on available data, classification criteria are not met.

12. Ecological Information**Ecotoxicity**

Very toxic to aquatic life with long lasting effects

Fish/LC50/96hr = 46 mg/l Rainbow trout (*Oncorhynchus mykiss*)

Daphnia/EC50/48hr = 0.77 mg/l

Alga/EC50/72hr = 7.39 mg/l (*Pseudokirchneriella subcapitata*)**Persistence and Degradability**

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No information available.

Bioaccumulative Potential

No information available.

Chemical Name	Log Kow
Pendimethalin	5.20

Other Adverse Effects

No information available.

13. Disposal Considerations

Waste Treatment Methods

Waste Disposal Method	Dispose of in accordance with applicable Federal, State, local laws and regulations.
Contaminated packaging	Empty container should be taken for local recycling, recovery or waste disposal. Do not re-use container. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport Information

IMDG/IMO

UN-No	UN 3082
Proper Shipping name	Environmentally hazardous substances, liquid, n.o.s. (Pendimethalin)
Hazard class	9
Packing group	III
EMS-No	F-A,S-F
Environmental Hazard	Marine pollutant

IATA/ICAO

UN-No	UN 3082
Proper Shipping name	Environmentally hazardous substances, liquid, n.o.s. (Pendimethalin)
Hazard class	9
Packing group	III
Environmental Hazard	Yes

15. Regulatory Information

International Inventories

(Pendimethalin: CAS 40487-42-1)

USINV	Complies
TSCA	-
EINECS/ELINCS	Complies
DSL/NDSL	-
PICCS	-
ENCS	-
IECSC	Complies
AICS	Complies
KECL	Complies

- : Not listed/Determines

Legend

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USINV - Total TSCA/FIFRA Inventory

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

16. Other Information

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Revision Summary	Update to GHS format

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End of Safety Data Sheet