



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
OSHA HCS2012

Revision date 25-Apr-2024

Revision Number 2

1. Identification

Product identifier

Product Name Pendimethalin

Other means of identification

Product Code(s) DRE-C15930000

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use This product is for research and development only

Restrictions on use Not to be used for human or animal consumption

Details of the supplier of the safety data sheet

Supplier Address

VHG
LGC Standards
276 Abby Road
Manchester, NH 03103
UNITED STATES OF AMERICA

Tel :+1 (603) 622-7660
Fax : +1 (603) 622-5180
Email : lgcusa@lgcgroup.com

Web : lgcstandards.com

E-mail sds-request@lgcgroup.com

Emergency telephone number

Emergency Telephone

For Hazardous Materials or Dangerous Goods Incident
Spill, Leak, Fire Exposure, or Accident
Call CHEMTREC:
USA & Canada 1-800-424-9300
Rest of the world +1 703-741-5970

2. Hazard(s) identification



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Classification

Classified according to OSHA.

Acute toxicity - Oral	Category 4
Reproductive toxicity	Category 2
Chronic aquatic toxicity	Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Warning

Hazard statements

Classified according to OSHA.

Harmful if swallowed

Suspected of damaging fertility or the unborn child

Very toxic to aquatic life with long lasting effects



Precautionary Statements - Prevention

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/clothing and eye/face protection

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell

Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant



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Other information

Very toxic to aquatic life.

3. Composition/information on ingredients

Substance

Formula C13 H19 N3 O4

Chemical name	CAS No.	Weight-%	Trade secret
Pendimethalin (ISO)	40487-42-1	100	*

4. First-aid measures

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash skin with soap and water.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.



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Specific hazards arising from the chemical No information available.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Please refer to the manufacturer's certificate for specific storage and transport temperature conditions. Store only in the original receptacle unless other advice is given on the CoA. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

8. Exposure controls/personal protection



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Control parameters

Exposure Limits This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles).

Hand protection The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374. Wear protective butyl rubber gloves. Wear suitable gloves.

Skin and body protection Wear suitable protective clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

General hygiene considerations Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Crystalline
Color	orange
Odor	Fruit-like odor
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known



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Melting point / freezing point	56 - 57 °C / 132.8 - 134.6 °F	None known
Initial boiling point and boiling range	No data available	None known
Flash point	No data available	None known
Evaporation rate	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	0.00003 mmHg @ 25 °C	None known
Relative vapor density	No data available	None known
Relative density	1.19	None known
Water solubility	No data available 0.33 mg/L	@ 20 °C
Solubility(ies)	Acetone, Methanol	
Partition coefficient	5.18	None known
Autoignition temperature	> 200 °C / 392 °F	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	281.31
VOC content	No information available
Liquid Density	No information available
Bulk density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information



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Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	Specific test data for the substance or mixture is not available.
Ingestion	Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Pendimethalin (ISO) 40487-42-1	= 1050 mg/kg (Rat) = 978 mg/kg (Mouse)	> 5000 mg/kg (Rabbit)	= 320 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. Suspected of damaging fertility or the unborn child.



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STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Pendimethalin (ISO) 40487-42-1	EC50:1.61 mg/L (72h, Algae)	LC50: =0.00019mg/L (96h, Pimephales promelas) LC50: =0.14mg/L (96h, Oncorhynchus mykiss) LC50: =0.2mg/L (96h, Lepomis macrochirus)	-	EC50: 2.69 mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Pendimethalin (ISO) 40487-42-1	5.18

Other adverse effects No information available.

13. Disposal considerations



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Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT

UN number or ID number UN3077
Extended proper shipping name Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO))
Transport hazard class(es) 9
Packing group III
Special Provisions 8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33
DOT Marine Pollutant I
Marine pollutant Pendimethalin (ISO)
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO)), 9, III, Marine pollutant
Emergency Response Guide Number 171

TDG

UN number or ID number UN3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO))
Transport hazard class(es) 9
Packing group III
Special Provisions 16, 99
Marine pollutant P
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO)), 9, III

MEX

UN number or ID number UN3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO))
Transport hazard class(es) 9
Packing group III
Technical Name Pendimethalin (ISO)
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO)), 9, III
Special Provisions 274, 331, 335

IATA

UN number or ID number UN3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO))
Transport hazard class(es) 9
Packing group III
Technical Name Pendimethalin (ISO)
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO)), 9, III



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Special Provisions A97, A158, A179, A197, A215
ERG Code 9L

IMDG Not regulated
UN number or ID number UN3077
UN proper shipping name Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO))
Transport hazard class(es) 9
Packing group III
EmS-No. F-A, S-F
Special Provisions 274, 335, 966, 967, 969
Marine pollutant P
Marine Pollutant Pendimethalin (ISO)
Description UN3077, Environmentally hazardous substance, solid, n.o.s. (Pendimethalin (ISO)), 9, III, Marine pollutant

15. Regulatory information

International Inventories

TSCA LGC has not confirmed that the chemical substances in this product are on the TSCA Inventory, and LGC is distributing this product solely for use either in applications statutorily exempt from TSCA and regulated under other laws (e.g., FFDCA, FIFRA) or in research and development activities in accordance with the TSCA Inventory R&D exemption provided at 40 CFR 720.36. It is the end-user's responsibility to understand and follow the requirements that apply to its use of this product.

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
Pendimethalin (ISO)	40487-42-1	-	-

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

DSL/NDL Contact supplier for inventory compliance status.
EINECS/ELINCS Contact supplier for inventory compliance status.
ENCS Contact supplier for inventory compliance status.
IECSC Contact supplier for inventory compliance status.
KECL Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AIIC Contact supplier for inventory compliance status.

Legend:

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

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



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EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Pendimethalin (ISO) - 40487-42-1	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Pendimethalin (ISO) 40487-42-1	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable



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16. Other information

<u>NFPA</u>	Health hazards 2	Flammability 1	Instability 0	Special hazards -
<u>HMIS</u>	Health hazards 2 *	Flammability 1	Physical hazards 0	Personal protection X

Chronic Hazard Star Legend * = Chronic Health Hazard

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	Sk*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision date 25-Apr-2024

Revision Note No information available.

Disclaimer

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury



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and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

End of Safety Data Sheet