



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Legolas

Version 1 (UK)

Issuing date: 2010/12/20

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

1.1. Product identifier

Trade name : **Legolas**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use : herbicide

1.3. Details of the supplier of the safety data sheet

Nufarm UK Limited
Wyke Lane
Wyke
Bradford
West Yorkshire BD12 9EJ
United Kingdom
Telephone: +44 (0)1274 691234
Telefax: +44 (0)1274 691176
E-mail address: infouk@uk.nufarm.com

1.4. Emergency telephone number

+44 (0)1274 696603

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

EEC/99/45 :	Xn	R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
	Xi	R41 - Risk of serious damage to eyes. R43 - May cause sensitization by skin contact.
	N	R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

according directive 1999/45/EG

Pictogram:



Xn



N

- R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
 R41 - Risk of serious damage to eyes.
 R43 - May cause sensitization by skin contact.
 R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- S24 - Avoid contact with skin.
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 S37 - Wear suitable gloves.
 S39 - Wear eye/face protection.
 S35 - This material and its container must be disposed of in a safe way.
 S57 - Use appropriate container to avoid environmental contamination.

2.3. Other hazards

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Aqueous solution of dimethylammonium salts
 Dichlorprop-P 400g/L, 2,4-D 300g/L and Dicamba 120g/L

3.2. Mixtures

Components	CAS-No.	EINECS-No. ELINCS No.	REACH No.	Symbol(s) R-phrases(s)	Concentration (w/w)
dichlorprop-P DMA	104786-87-0			Xn R20/21/22	37.8 %
2,4-D DMA	2008-39-1	217-915-8		Xn, N R22, R41, R43, R51/53	28.7 %
Dicamba DMA	2300-66-5	218-951-7		Xi R36, R52/53	11.5 %

4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact : Rinse immediately with plenty of water, also under the eyelids,



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- for at least 15 minutes. Obtain medical attention.
- Skin contact : Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician. Wash contaminated clothing before re-use.
- Inhalation : Move to fresh air. If symptoms persist, call a physician.
- Ingestion : Do NOT induce vomiting. Rinse mouth. If conscious, drink plenty of water. If symptoms persist, call a physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms : No information available.

4.3. Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

- Suitable extinguishing media : Water spray, Carbon dioxide (CO₂), Dry powder, Alcohol-resistant foam
- Extinguishing media which shall not be used for safety reasons : High volume water jet

5.2. Special hazards arising from the substance or mixture

- Specific hazards during fire fighting : In the event of fire (HCl, Cl₂, CO) may be formed.

5.3. Advice for firefighters

- Special protective equipment for fire-fighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
- Further Information : Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6. ACCIDENTAL RELEASE MEASURES



6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protective equipment. (see Chapter 8)

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Sweep up and shovel into suitable containers for disposal.

Additional advice : Never return spills in original containers for re-use.

6.4. Reference to other sections

see Chapter 13

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Safe handling advice : Wear personal protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container. Keep containers tightly closed in a cool, well-ventilated place.

Advice on common storage : Keep out of reach of children. Keep away from food, drink and animal feeding stuffs.

7.3. Specific end uses

none

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Components with workplace control parameters
(EH40/2005 Workplace exposure limits)

Components	CAS-No.	National occupational exposure limits	Note
dichlorprop-P DMA	104786-87-0		no classification available
2,4-D DMA	2008-39-1		no classification available
Dicamba DMA	2300-66-5		no classification available



8.2. Exposure controls

Personal protective equipment

- Respiratory protection : No special protective equipment required.
- Hand protection : PVC or nitrile-rubber gloves
- Eye protection : Safety glasses, , or:, Goggles
- Skin and body protection : lightweight protective clothing
- Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.
- Protective measures : Avoid contact with skin, eyes and clothing. Keep working clothes separately.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

- Form : Soluble concentrate
- Colour : yellow
- Odour : amine-like
- Flash point : The product is not flammable.
- Density : ca.1.25 g/cm³
at 20 °C
- pH : 7.5 - 9
- Partition coefficient: n-octanol/water : log POW = -0.56
(dichlorprop-P), (pH 7)
- log POW = -0.83
(2,4-D), (pH 7)
- log POW = -1.8



(Dicamba), (pH 7)

Viscosity, dynamic : 134 mPa.s
at 20 °C

42.1 mPa.s
at 40 °C

Viscosity, kinematic : 107 mm²/s
at 20 °C

107 mm²/s
at 20 °C

9.2. Other information

none

10. STABILITY AND REACTIVITY

10.1. Reactivity

no data available, not applicable

10.2. Chemical stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

no data available

10.4. Conditions to avoid

No dangerous reaction known under conditions of normal use.

10.5. Incompatible materials to avoid

Strong acids and strong bases

10.6. Hazardous decomposition products

none



11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute oral toxicity : LD50 rat
Dose: 567 mg/kg
Test substance: Dichlorprop-P

LD50 rat
Dose: 699 mg/kg
Test substance: (2,4-D)

LD50 rat
Dose: 1,707 mg/kg
Test substance: (Dicamba)

Acute dermal toxicity : LD50 rat
Dose: > 2,000 mg/kg
Test substance: (dichlorprop-P)

LD50 rat
Dose: > 2,000 mg/kg
Test substance: (2,4-D)

LD50 rat
Dose: > 2,000 mg/kg
Test substance: (Dicamba)

Acute inhalation toxicity : LC50 rat
Exposure time: 4 h
Dose: > 2.7 mg/l
Test substance: (dichlorprop-P)

LC50 rat
Exposure time: 4 h
Dose: 4.46 mg/l
Test substance: (Dicamba)

Skin irritation : Remarks: no data available

Eye irritation : Remarks: no data available

Sensitisation : Remarks: no data available



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12. ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish : LC50
Dose: 100 mg/l
Testing period: 96 h
Test substance: (dichlorprop-P)

LC50
Dose: 240 mg/l
Testing period: 96 h
Test substance: (2,4-D)

LC50
Dose: 135.3 mg/l
Testing period: 96 h
Test substance: (Dicamba)

Toxicity to daphnia : EC50
Dose: > 100 mg/l
Testing period: 48 h
Test substance: (dichlorprop-P)

EC50
Dose: > 100 mg/l
Testing period: 48 h
Test substance: (2,4-D)

EC50
Dose: 110.7 mg/l
Testing period: 48 h
Test substance: (Dicamba)

Toxicity to algae : EC50
Dose: 20.3 mg/l
Exposure time: 72 h
Test substance: (dichlorprop-P)

EC50
Dose: 2.1 mg/l
Exposure time: 72 h



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Test substance: (Dicamba)

12.2. Persistence and degradability

Stability in soil : DT50: 2.1 - 8 d
(Dicamba)

DT50: 2 - 59 d
(2,4-D)

DT50: 7.4 - 16.5 d
(dichlorprop-P)

12.3. Potential bioaccumulation

Bioaccumulation : No bioaccumulation.

12.4. Mobility in soil

Koc= 5 - 212 (2,4-D)
Koc = 12.9 - 83.7L/kg; 1/n= 0.589 - 0.908 (dichlorprop-P)
Kfoc = 3.45 - 21.2 (dicamba)

12.5. Results of PBT and vPvB assessment

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

12.6. Other adverse effects

none

13. DISPOSAL CONSIDERATIONS

According to European Directive 2000/532/EC as amended :

Waste Code : 02 01 08 (agrochemical waste containing dangerous substances)

13.1. Waste treatment methods

Product : In accordance with local and national regulations.

Contaminated packaging : Do not re-use empty containers. Dispose empty and triple rinsed container within a local disposing system



14. TRANSPORT INFORMATION

14.1. UN number

14.2. Proper shipping name

not applicable

14.3. Transport hazard class(es)

ADR/RID :

Not a dangerous substance as defined in the above regulations.

IMDG :

Not a dangerous substance as defined in the above regulations.

IATA-DGR :

Not a dangerous substance as defined in the above regulations.

14.4. Packaging group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

none

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.



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15.2. Chemical Safety Assessment

none

16. OTHER INFORMATION

Print Date : 2010/12/20

The date format YYYY/MM/DD is used according to ISO 8601.
(Alterations are indicated in the left hand margin by: ||)

Full text of R-phrases referred to under sections 2 and 3

- R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
- R22 - Harmful if swallowed.
- R41 - Risk of serious damage to eyes.
- R43 - May cause sensitization by skin contact.
- R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R36 - Irritating to eyes.
- R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

The information contained herein is based on the present state of our knowledge and does therefore not guarantee certain properties.