



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Turfmaster
Version 1 (UK)

Issuing date: 2014/01/07

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

1.1. Product identifier

Trade name : **Turfmaster**

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 :	Xi	R41 - Risk of serious damage to eyes. R52 - Harmful to aquatic organisms.
EG_1272/08 :	EyeDam.1 AquaticChronic2	H318 - Causes serious eye damage. H411 - Toxic to aquatic life with long lasting effects.

2.2. Label elements

according directive 1999/45/EG

Pictogram:



Xi

- R41 - Risk of serious damage to eyes.
R52 - Harmful to aquatic organisms.
- S25 - Avoid contact with eyes.
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S35 - This material and its container must be disposed of in a safe way.
S39 - Wear eye/face protection.
S57 - Use appropriate container to avoid environmental contamination.

REGULATION (EC) No 1272/2008

Pictogram:



GHS05



GHS09

Signal word: Danger

- H318 - Causes serious eye damage.
H411 - Toxic to aquatic life with long lasting effects.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P273 - Avoid release to the environment.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER or doctor/ physician.
P501 - Dispose of contents/ container to an approved waste disposal plant.

2.3. Other hazards

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



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Aqueous solution of the potassium salts
MCPA/Mecoprop-P/Dicamba 256.25/43.3/19.5 g/l

Components:

MCPA-K

CAS-No.: 5221-16-9
EINECS-No. / ELINCS No.: 226-015-4
REACH No.:
Concentration: 23.0 % (w/w)

Classification:

EG_1272/08 : AcuteTox.4 H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled
AquaticAcute1 H400 - Very toxic to aquatic life.
AquaticChronic1 H410 - Very toxic to aquatic life with long lasting effects.
EEC/67/548 : Xn R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed.
N R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Mecoprop-P K

CAS-No.: 66423-05-0
EINECS-No. / ELINCS No.:
REACH No.:
Concentration: 4.0 % (w/w)

Classification:

EG_1272/08 : AcuteTox.4 H302 - Harmful if swallowed.
EyeDam.1 H318 - Causes serious eye damage.
AquaticChronic2 H411 - Toxic to aquatic life with long lasting effects.
EEC/67/548 : Xn R22 - Harmful if swallowed.
Xi R41 - Risk of serious damage to eyes.
N R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Dicamba-K

CAS-No.: 10007-85-9
EINECS-No. / ELINCS No.: 233-002-7
REACH No.:
Concentration: 1.8 % (w/w)

Classification:

EG_1272/08 : EyeIrrit.2 H319 - Causes serious eye irritation.
AquaticChronic3 H412 - Harmful to aquatic life with long lasting effects.
EEC/67/548 : Xi R36 - Irritating to eyes.
R52/53 - Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

4.1. Description of first aid measures



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
- Skin contact : Remove and wash contaminated clothing before re-use. Wash off with soap and water. If symptoms persist, call a physician.
- Inhalation : Move to fresh air. Oxygen or artificial respiration if needed. If symptoms persist, call a physician.
- Ingestion : Never give anything by mouth to an unconscious person. Do NOT induce vomiting. 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. FIREFIGHTING MEASURES

5.1. Extinguishing media

- Suitable extinguishing media : Water, Carbon dioxide (CO₂), Alcohol-resistant foam, Dry powder
- 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 firefighting : In the event of fire (HCl, Cl₂, NO_x, CO) may be formed.

5.3. Advice for firefighters

- Special protective equipment for firefighters : 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

Use 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.

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. Do not breathe vapours or spray mist.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store at room temperature in the original container. Keep in a 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 use(s)

none

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

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

Components	CAS-No.	National	Note



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Turfmaster
Version 1 (UK)

Issuing date: 2014/01/07

		occupational exposure limits	
MCPA-K	5221-16-9		no classification available, not listed in EH40/2005
Mecoprop-P K	66423-05-0		no classification available, not listed in EH40/2005
Dicamba-K	10007-85-9		no classification available, not listed in EH40/2005

8.2. Exposure controls

Personal protective equipment

- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
- Hand protection : PVC or nitrile-rubber gloves
- Eye protection : Safety glasses, , or:, Goggles
- Skin and body protection : protective suit
- Hygiene measures : Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice for diagnostics.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance

- Physical state : liquid
Colour : brown
Odour : slight phenolic

Flash point : > 100 °C

Vapour pressure : 4E-04 Pa
at 32 °C
(MCPA)

4E-04 Pa
at 20 °C
(mecoprop-P)

1.7E-03 Pa
at 25 °C
(Dicamba)



SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

Density	:	1.16 g/cm ³ at 20 °C
Water solubility	:	completely miscible
pH	:	7
Partition coefficient: n-octanol/water	:	log POW = 0.71 (MCPA)
		log POW = 2.8 (mecoprop-P)
		log POW = 1.88 (Dicamba)
Viscosity, dynamic	:	4.5 mPa.s at 20 °C
Surface tension	:	50.7 mN/m at 20 °C

9.2. Other information

none

10. STABILITY AND REACTIVITY

10.1. Reactivity

no data available

10.2. Chemical stability

No decomposition if stored and applied as directed.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.



10.4. Conditions to avoid

No decomposition if stored and applied as directed.

10.5. Incompatible materials to avoid

Acids, Strong acids

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- Acute oral toxicity : LD50 rat
Dose: 962 mg/kg
Test substance: (MCPA)
- LD50 rat
Dose: 431 - 1,050 mg/kg
Test substance: (mecoprop-P)
- LD50 rat
Dose: 1,707 mg/kg
Test substance: (Dicamba)
- Acute dermal toxicity : LD50 rat
Dose: > 4,000 mg/kg
Test substance: (MCPA)
- LD50 rat
Dose: > 4,000 mg/kg
Test substance: (mecoprop-P)
- LD50 rabbit
Dose: > 2,000 mg/kg
Test substance: (Dicamba)
- Acute inhalation toxicity : LC50 rat
Exposure time: 4 h
Dose: 6.36 mg/l
Test substance: (MCPA)
- LC50 rat
Exposure time: 4 h
Dose: > 5.6 mg/l



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

Test substance: (mecoprop-P)

LC50 rat
Exposure time: 4 h
Dose: > 9.6 mg/l
Test substance: (Dicamba)

Skin irritation : Classification: No skin irritation

Eye irritation : Classification: Irritating to eyes.

Sensitisation : Result: Not sensitizing to skin.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

: LD50 Toxicity to birds
Dose: 270 mg/kg
Test substance: (MCPA)

: LD50 Toxicity to birds
Dose: 2,000 mg/kg
Testing period: 8 d
Test substance: (Dicamba)

: Bee
Test substance: (MCPA)
Not toxic to bees.
Dose ($\mu\text{g}/\text{Species}$): > 200

: Bee
Test substance: (mecoprop-P)
Not toxic to bees.

: LD50 Bee
Test substance: (Dicamba)
Not toxic to bees.
Dose ($\mu\text{g}/\text{Species}$): > 100



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

Toxicity to fish : LC50 Toxicity to fish
Dose: 50 mg/l
Testing period: 96 h
Test substance: (MCPA)

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

LC50 Toxicity to fish
Dose: 135 mg/l
Testing period: 96 h
Test substance: (Dicamba)

Toxicity to daphnia : LC50 Daphnia
Dose: > 190 mg/l
Testing period: 48 h
Test substance: (MCPA)

LC50 Daphnia
Dose: > 270 mg/l
Testing period: 48 h
Test substance: (mecoprop-P)

LC50 Daphnia
Dose: 110 mg/l
Testing period: 48 h
Test substance: (Dicamba)

Toxicity to algae : EC50 Toxicity to algae
Dose: 57 mg/l
Exposure time: 72 h
Test substance: (MCPA)

EC50 Toxicity to algae
Dose: 16.2 mg/l
Exposure time: 72 h
Test substance: (mecoprop-P)

EC50 Toxicity to algae
Dose: 250 mg/l
Exposure time: 120 h
Test substance: (Dicamba)

12.2. Persistence and degradability



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

Stability in soil : DT50: 6.3 - 8.2 d
(mecoprop-P)

DT50: 2.1 - 8 d
(Dicamba)

DT50: 7 - 14 d
(MCPA)

12.3. Potential bioaccumulation

Bioaccumulation : Does not bioaccumulate.

12.4. Mobility in soil

Koc = 135 - 167 (mecoprop-P)

Kfoc = 3.45 - 21.2, 1/n=0.72 - 0.93 (Dicamba)

Koc = 10 - 157 (MCPA)

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. Dispose of product and packaging in accordance with The Green Code. (The Code of Practice for the safe use of Pesticides on Farms and Holdings.) A MAFF Publication.

Contaminated packaging : Do not re-use empty containers. Do not dispose with household waste. Dispose empty and triple rinsed container within a local disposing system according to EC directive 94/62/EC



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.



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Turfmaster

Version 1 (UK)

Issuing date: 2014/01/07

15.2. Chemical Safety Assessment

none

16. OTHER INFORMATION

Print Date : 2014/01/07

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

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.