

PEEL BACK FOR DIRECTIONS FOR USE LEAFLET



# DHM Agrochemicals Ltd

NET CONTENTS

## 10 Litres e

# M 50

A soluble concentrate containing 500 g/L (44.25% w/w) MCPA as the dimethylamine salt.  
A selective herbicide for the control of many broad-leaved weeds in cereals and established grassland.

### FOR USE ONLY AS AN AGRICULTURAL HERBICIDE

Crops	Maximum Individual Dose	Maximum Total Dose	Latest Timing
Winter wheat	3.3 L/ha	3.3 L product/ha/crop	Before 3 <sup>rd</sup> node detectable (GS 33)
Spring wheat winter and spring barley, rye and oats	3.3 L/ha	3.3 L product/ha/crop	Before 1 <sup>st</sup> node detectable (GS 31)
Undersown cereals (listed above)			
With red clover	1.4 L/ha	1.4 L product/ha/crop	Before 1 <sup>st</sup> node detectable (GS 31)
With grass only	2.7 L/ha	2.7 L product/ha/crop	
Established Grassland	3.3 L/ha	6.6 L product/ha/year	N/A
Grass seed crop	3.2 L/ha	3.2 L product/ha/year	5 weeks before heading

Other specific restriction: Do not apply by hand-held equipment.  
This product must not be applied before the end of February in the year of harvest.  
Do not apply in volumes less than 200 litres of water per hectare.

### Safety Information



### DANGER

Harmful if swallowed.

Causes serious eye damage.

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Wear protective gloves/ protective clothing/ eye protection/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Rinse mouth.

Dispose of contents/container to a licensed waste disposal contractor or collection site except for empty triple rinsed containers which can be disposed of as non-hazardous waste.

To avoid risks to human health and the environment, comply with the instructions for use

PCS No. 04169

### Additional Safety Phrases:

- Extreme care must be taken to avoid spray drift onto non-crop plants outside the target area
- Livestock must be kept out of treated areas until poisonous weeds such as ragwort have died and become unpalatable
- To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies
- Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

**PROTECT FROM FROST  
FOR PROFESSIONAL USE ONLY**

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B1050-001 A0315

## DIRECTIONS FOR USE

### RESTRICTIONS

- DO NOT roll or harrow within a week of spraying.
- DO NOT mow within four days of application.
- DO NOT treat newly established grass less than one year old.
- DO NOT treat grass suffering from drought, disease, during freezing conditions when rain is imminent or other adverse factors.
- Extreme care must be taken to avoid spray drift onto non-crop plants outside of the target area
- DO NOT spray in windy weather, avoid drift on to neighbouring crops, especially beans, beet, brassicas, carrots, legumes, lettuce and tomatoes which are very susceptible.
- DO NOT apply before undersowing.
- WASH EQUIPMENT thoroughly immediately after use. Rinse with water three times, drain and allow to dry. Traces of herbicide left in the sprayer may damage susceptible crops if these are subsequently sprayed using the same equipment.
- Do not apply in volumes less than 200 litres of water per hectare

### WEEDS CONTROLLED

#### Cereals

Susceptibility	Weed Species	Dose (L/ha)	Growth Stage
Susceptible	Black mustard Charlock Fat-hen Field Penny-cress Treacle Mustard White mustard	1.4 L/ha	Up to six expanded true leaves or up to 100 mm across/high
	Corn Buttercup Runch (Wild Radish) Shepherd's-purse	1.6 L/ha	Cotyledons up to two expanded true leaves
	Volunteer oilseed rape	2.7 L/ha	Up to six expanded true leaves or up to 100 mm across/high
Moderately Susceptible	Common Fumitory Common Hemp-nettle Common Orache Small Nettle Wild Cabbage Common Poppy Field Gromwell Smooth Sow-thistle Creeping Thistle	2.7 – 3.3 L/ha	Controlled at cotyledons up to two expanded leaves and checked up to 100 mm across/high
	Black Bindweed Common chickweed Corn chamomile Corn spurrey Field pansy Groundsel Knotgrass Pale Persicaria Redshank Scentless mayweed Speedwells	2.7 – 3.3 L/ha	Cotyledons up to two expanded true leaves
	Creeping Buttercup Hoary Cress Shepherd's-needle Tares (Vetches) Perennial Sow-thistle	3.3 L/ha	Cotyledons up to two expanded true leaves

### Established Grassland and Grass seed crop

Susceptibility	Weed Species	Timing
Susceptible (Consistently good control of both roots and shoots)	Greater Plantain	
	Ribwort Plantain	
Moderately Susceptible (Weeds suppressed and top-growth usually killed)	Autumn Hawkbit	
	Cat's Ear	
	Common Knapweed	
	Compact Rush	Spray in April to June. Cut and remove stems either four weeks before or after treatment
	Creeping Buttercup*	Treat in spring or early summer
	Creeping Thistle	Treat at early flower bud stage
	Common Daisy	
	Common Ragwort	Spray in spring when in rosette stage before flower spike starts to grow
	Hoary Cress	
	Meadow Buttercup	Treat in spring or early summer
Self Heal		
Soft Rush	Treat as Compact Rush	
Spear Thistle		
Moderately Resistant (Top growth only may be killed)	Bulbous Buttercup	Treat in autumn on new leaf or in spring
	Colt's Foot	
	Common Nettle*	
	Common Sorrel	
	Curled Dock*	Treat pre flowering or after defoliation
	Dandelion	
	Dwarf Thistle	
	Hard Rush	Treat as Compact Rush
	Horsetails*	Shoots only controlled, apply in May-June
	Meadowsweet	
	Perennial Sow Thistle*	
	Sheep's Sorrel	
	Yarrow	

\*The species marked \* should be treated at 3.3 L product/ha to achieve the level of control indicated. All other species should be treated at 2.7 L product/ha

### CROP SPECIFIC INFORMATION

Always spray when the crop is actively growing.

#### Winter wheat

Application Rate: 1.4 to 3.3 L/ha (see weed susceptibility table)

Maximum total dose: 3.3 L/ha

Apply in the spring from the leaf sheath erect stage to before third node detectable (GS33).

Application under very hot conditions can cause ear damage if the crop comes under stress after application

All varieties of winter wheat may be treated

Apply in 200 - 400 L water/ha.

**Spring wheat and winter and spring barley, oats and rye.**

Application Rate: 1.4 to 3.3 L/ha (see weed susceptibility table)

Maximum total dose: 3.3 L/ha

For all cereals above apply in the spring before 1<sup>st</sup> node detectable stages (GS 31).

- **WINTER BARLEY, OATS AND RYE:** Spray in the spring from the leaf sheath erect stage (GS 30).
- **SPRING WHEAT, BARLEY AND RYE:** Spray after the crop has developed five fully expanded leaves (GS 15).
- **SPRING OATS:** Spray after the crop has developed one fully expanded leaf (GS 11).

Application under very hot conditions at later timings can cause ear damage if the crop comes under stress after application.

Barley is particularly subject to malformation and particular attention must be paid to the correct growth stage if this crop is intended for malting.

All varieties of spring wheat, winter and spring barley, oats and rye may be treated.

Apply in 200 - 400 L water/ha.

**Undersown cereals**

Do not apply to cereals undersown with lucerne, peas or sofabn.

**Red Clover**

Application rate: 1.4 L product/ha.

Maximum total dose: 1.4 L product/ha.

Application should be made when the red clover has at least two trifoliate leaves (GS 12), and the cereal crop is at the correct growth stage, as listed above.

Only apply if the weeds canopy is dense and covers most of the clover seedlings. Some damage to red clover must be expected, but this will normally be out-grown. Do not apply if white clover is present.

**Grasses**

Application rate: 2.7 L product/ha.

Maximum total dose: 2.7 L product/ha.

Application should be made when the grasses have begun to tiller, and the cereal crop is at the correct growth stage, as listed above.

Apply in 200 - 400 L water/ha.

**Established Grassland**

Application rate: 2.7 to 3.3 L product/ha.

Maximum total dose: 6.6 L product/ha.

Use on established grassland and leys not less than 1 year old. Apply M 50 in spring and summer when growing conditions are favourable. Spray grass for hay or silage 3-4 weeks before cutting. Clover may be checked but recovers by the following Spring. Follow-up applications may also be needed where new seedling weeds appear. An interval of 4-6 weeks should elapse between successive applications if weeds persist.

A top dressing ten days before treatment is recommended to assist kill of weeds and subsequent recovery of the sward. Annual weed species will be best controlled if spraying is done while the majority of weeds are seedlings. Perennial weeds should be sprayed during their period of maximum growth, usually when the flower buds are beginning to form. The response of perennial weeds to treatments are often variable with only the aerial parts killed, though often suppression will occur. The recovery of the weeds will be reduced if the grass is growing vigorously at the time of treatment.

Apply in 200 - 400 L water/ha.

**Grass seed crop**

Application rate: 3.2 L product/ha.

Maximum total dose: 3.2 L product/ha.

The safe period for treatment occurs when the grasses have at least four leaves and have begun to tiller but at least five weeks preceding ear emergence. The best time varies according to the species and strain of grass concerned.

Do not apply more than 3.2 L/ha of M 50.

Apply in 200 - 400 L water/ha.

**MIXING AND SPRAYING**

Half-fill the tank with clean water and add the required quantity of M50, and add the remainder of the clean water with gentle agitation which should continue until the contents are thoroughly mixed.

Triple rinse containers with water and add washing to the spray tank.

**TANK CLEANING**

WASH EQUIPMENT thoroughly immediately after use. Rinse with water three times, drain and allow to dry. Traces of herbicide left in the sprayer may damage susceptible crops if these are subsequently sprayed using the same equipment.

**COMPATIBILITY**

M50 can be tank-mixed with other pesticides, please consult your Nufarm distributor or Nufarm UK Limited.

**RESISTANCE MANAGEMENT**

When herbicides with the same mode of action are used repeatedly over several years in the same field, selection of resistant biotypes can take place. These can propagate and may become dominating. A weed species is considered to be resistant to a herbicide if it survives a correctly applied treatment at the recommended dose. A strategy for preventing and managing such resistance should be adopted. This should include integrating herbicides with a programme of cultural control measures.

**TERMS AND CONDITIONS OF SUPPLY, SALE OR USE**

All goods supplied by us are high grade and we believe them to be suitable for the purpose for which we expressly supply them: but as we cannot exercise any control over their mixing, use or application which may affect the performance of the goods all conditions and warranties statutory or otherwise as to the quality or fitness for any purpose of our goods are excluded and no responsibility will be accepted by us or our Associate Companies for any damage or injury whatsoever arising from their storage, handling, re-application or use. These conditions cannot be varied by our staff, our agents or the re-sellers of the product whether or not they supervise or assist in the use of such goods.

**SAFETY DATA SHEET****1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier**

Trade name: M 50

**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**DHM Agrochemicals Limited, Castle Lodge, Kilgobbin Road, Sandyford, Dublin 18, Ireland  
Telephone: (01) 2952377 Fax: (01) 2959399 E-mail address: info@dhm.ie

Emergency telephone number: +00 353 1 2952377

**2. HAZARDS IDENTIFICATION****2.1. Classification of the substance or mixture**

EEC/99/45:	Xi	R37 - Irritating to respiratory system.
	Xn	R22 - Harmful if swallowed.
	N	R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
EG_1272/08:	AcuteTox.4	H302 - Harmful if swallowed.
	EyeDam.1	H318 - Causes serious eye damage.

**2.2. Label elements**

according directive 1999/45/EG

Pictogram:



R22	-	Harmful if swallowed.
R41	-	Risk of serious damage to eyes.
R37	-	Irritating to respiratory system.
R50/53	-	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S13	-	Keep out of the reach of children.
S2	-	Keep away from food, drink and animal feedingstuffs.
S26	-	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S39	-	Wear eye/face protection.
S46	-	If swallowed, seek medical advice immediately and show this container or label.
S57	-	Use appropriate container to avoid environmental contamination.
S35	-	This material and its container must be disposed of in a safe way.

REGULATION (EC) No 1272/2008

Pictogram:



Signal word: Danger

- H302 - Harmful if swallowed.
- H318 - Causes serious eye damage.
- P264 - Wash hands thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
- P330 - Rinse mouth.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P501 - Dispose of contents/ container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non hazardous waste.

2.3. Other hazards

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Aqueous solution of the dimethylammonium salt Contains MCPA 500g/l

3.2. Mixtures

Components:

MCPA

CAS-No.: 94-74-6  
 EINECS-No. / ELINCS No.: 202-360-6  
 REACH No.:  
 Concentration: 44.25 % (w/w)  
 Classification:  
 EG\_1272/08:

AcuteTox.4  
 SkinIrrit.2  
 EyeDam.1  
 AquaticAcute1  
 AquaticChronic1  
 H302 - Harmful if swallowed.  
 H315 - Causes skin irritation.  
 H318 - Causes serious eye damage.  
 H400 - Very toxic to aquatic life.  
 H410 - Very toxic to aquatic life with long lasting effects  
 R22 - Harmful if swallowed.  
 R38 - Irritating to skin.  
 R41 - Risk of serious damage to eyes.  
 R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

EEC/67/548: Xn  
 Xi  
 Xi  
 N

4-chloro-o-cresol

CAS-No.: 1570-64-5  
 EINECS-No. / ELINCS No.: 216-381-3  
 REACH No.: 01-2119455846-26  
 Concentration: 0.1 % (w/w)  
 Classification:  
 EG\_1272/08:

AcuteTox.3  
 SkinCorr.1A  
 AquaticAcute1  
 T  
 C  
 N  
 H331 - Toxic if inhaled.  
 H314 - Causes severe skin burns and eye damage.  
 H400 - Very toxic to aquatic life.  
 R23 - Toxic by inhalation.  
 R35 - Causes severe burns.  
 R50 - Very toxic to aquatic organisms.

EEC/67/548:

4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact:

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

Rinse mouth. Do NOT induce vomiting. If swallowed, seek medical advice immediately and show this container or label.

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, Dry powder, Sand, Foam, Carbon dioxide (CO2)  
 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, NOx, CO) may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters: Use personal protective equipment. In the event of fire, wear self-contained breathing apparatus.

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). Shovel into suitable container 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. 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. 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 (according to S.I. No. 619 of 2001)

Components: MCPA

CAS-No.: 94-74-6

National occupational exposure limits: -

Note: no classification available, (according to S.I. No. 619 of 2001)

Components: 4-chloro-o-cresol

CAS-No.: 1570-64-5

National occupational exposure limits: -

Note: no classification available, (according to S.I. No. 619 of 2001)

**8.2. Exposure controls****Personal protective equipment**

Hand protection: PVC or nitrile-rubber gloves

Eye protection: Safety glasses, or, Goggles

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties****Appearance**

Physical state: liquid at 20 °C ,

Form: Soluble concentrate

Colour: amber brown

Odour: amine-like

Start of crystallisation: ca.0 °C

Boiling point/boiling range: ca.100 °C at 1,013 hPa Aqueous solution

Flash point: > 110 °C Method: EN/DIN 22719

Ignition temperature: 420 °C

Explosivity: Not explosive

Upper explosion limit: no data available

Lower explosion limit: no data available

Vapour pressure: Active ingredient is an organic salt. Vapour pressure is negligibly low.

Density: ca.1.13 g/cm<sup>3</sup> at 20 °C

Water solubility: completely miscible

pH: 6.4

Partition coefficient: n-octanol/water: log POW = 0.59 at 25 °C

(MCPA), (pH 5)

log POW = -0.71 at 25 °C

(MCPA), (pH 7)

**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 dangerous reaction known under conditions of normal use.

**10.5. Incompatible materials to avoid**

Strong acids and strong bases

**10.6. Hazardous decomposition products****11. TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

Acute dermal toxicity:

LD50 rat

Dose: > 2,000 mg/kg

LC50 rat Exposure time: 4 h

Dose: > 4.72 mg/l

rabbit

Result: No skin irritation

rabbit

Result: Severe eye irritation

Maximisation Test Guinea-pig

Result: Did not cause sensitization.

Skin irritation:

Eye irritation:

Sensitisation:

**12. ECOLOGICAL INFORMATION****12.1. Toxicity**

Toxicity to fish:

LC50 Oncorhynchus mykiss (Rainbow trout)

Dose: 99.3 mg/l

Testing period: 96 h

Toxicity to daphnia:

EC50 Daphnia

Dose: 424 mg/l

Testing period: 48 h

Toxicity to algae:

ErC50 Toxicity to algae

Dose: 60.7 mg/l

ErC50 Lemna minor (duckweed)

Dose: 1.52 mg/l

**12.2. Persistence and degradability**

Biodegradability: Readily biodegradable, according to appropriate OECD test.

Stability in soil: DT50: ca. 20 d (MCPA)

Stability in water: DT50: 13.5 d (MCPA)

**12.3. Potential bioaccumulation**

Bioaccumulation: Does not bioaccumulate.

**12.4. Mobility in soil**

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.

Contaminated packaging: Do not re-use empty containers.

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.

##### 15.2. Chemical Safety Assessment

none

#### 16. OTHER INFORMATION

Print Date: 2014/02/04

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.