**Safety Information**

## Harmony® M SX®

**Herbicide containing 40 g/kg metsulfuron-methyl and 400 g/kg thifensulfuron-methyl**

**WARNING**

**Very toxic to aquatic life with long lasting effects**

Collect spillage

Dispose of contents / container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed empty clean 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: 02330**


DuPont™

## Harmony® M SX®

**CEREAL HERBICIDE**

| GROUP | B | HERBICIDE |
|---|---|---|

***PCS No: 02330***

A non-segregating blend of water soluble granules containing 40 g/kg metsulfuron-methyl and 400 g/kg thifensulfuron-methyl for spring control of broad-leaved weeds in winter wheat, spring wheat, winter barley, spring barley and winter oats.

*® Registered trademark of E I du Pont de Nemours and Company*

**Contents: 200 g** ℮



**SAFETY PRECAUTIONS**
**ENVIRONMENTAL PROTECTION**

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).

To protect aquatic organisms respect an unsprayed buffer zone of 5m to surface water bodies.

Manufactured in E.U.

**FOR PROFESSIONAL USE ONLY**

**Du Pont (U.K.) Ltd.**
**Crop Protection Products, Wedgwood Way,**
**Stevenage, Herts. SG1 4QN. UK**
**Technical enquiries Tel: 00 44 1438 734450**
**or enquiry.agproducts@gbr.dupont.com**
**Emergency contact: (01) 901 4670**
**Poisons Information Service: 01 837 9964 or 01 809 2166**

3 576960 034586

K-35648/31501 - UK

BLACK

# Harmony® M sx

**cereal herbicide**

***PCS No: 02330***

A non-segregating blend of water soluble granules containing 40 g/kg metsulfuron-methyl and 400 g/kg thifensulfuron-methyl for spring control of broad-leaved weeds in winter wheat, spring wheat, winter barley, spring barley and winter oats.

Manufactured in E.U.

**Du Pont (U.K.) Ltd.**
**Crop Protection Products, Wedgwood Way, Stevenage, Herts. SG1 4QN. UK**
**Technical enquiries Tel: 00 44 1438 734450 or enquiry.agproducts@gbr.dupont.com**
**Emergency contact: (01) 901 4670**
**Poisons Information Service: 01 837 9964 or 01 809 2166**





**FOR USE ONLY AS AN AGRICULTURAL HERBICIDE**

**For the control of certain broad leaved weeds in winter wheat, spring wheat, winter barley, spring barley and winter oats.**

Crops: winter wheat, spring wheat
winter barley, spring barley, winter oats

Maximum individual dose:
winter wheat,winter barley, winter oats 125g/ha
spring wheat and spring barley 100g/ha

Maximum number of treatments: One per crop

Maximum total dose:
winter wheat,winter barley, winter oats 125g/ha
spring wheat and spring barley 100g/ha

Latest time of application:
Winter wheat and winter barley
before flag leaf sheath extending stage(GS 39)

Spring wheat and spring barley
before flag leaf sheath extending stage(GS 39)

Winter oats
before flag leaf sheath extending stage (GS 39)

Method of application: Tractor Mounted sprayer

**READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE.FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS**

**Additional Safety Advice**
WASH CONCENTRATE from skin or eyes immediately
WHEN USING DO NOT EAT, DRINK OR SMOKE
WASH HANDS AND EXPOSED SKIN before meals and after work
AVOID DAMAGE BY DRIFT OUTSIDE THE TARGET AREA OR ONTO PONDS, WATERWAYS OR DITCHES
KEEP IN ORIGINAL CONTAINER, TIGHTLY CLOSED IN A SAFE PLACE
EMPTY CONTAINER COMPLETELY AND DISPOSE OF SAFELY

## DIRECTIONS FOR USE

**Restrictions**

- Do not apply to any crop suffering from stress as a result of drought, waterlogging, low temperatures, pest or disease attack, nutrient or lime deficiency or other factors reducing crop growth.
- Do not apply to cereal crops undersown with grass, clover or other legumes or any other broad-leaved crop.
- Due to the high level of activity of the herbicide, **special care must be taken to avoid damage by drift onto broad-leaved plants outside the target area, or onto ponds, waterways or ditches.**
- Do not apply within seven days of rolling the crop.
- Do not apply more than once to any cereal crop.
- Failure to clean the sprayer thoroughly after use can result in damage to sensitive crops later. Follow washout instructions and only use label-recommended tank mixtures.

**Weed Control**

HARMONY® M SX is a highly active herbicide that works mainly by foliar action with some root activity. It controls a wide range of broad-leaved weeds and is most effective if applied when the weeds are small and actively growing. Good spray cover of the weeds must be obtained and, since larger weeds often become less susceptible, it is important to note the size of each weed at the time of application. Susceptible plants cease growth almost immediately after post-emergence application and symptoms can be seen about two weeks after application. It is important to identify the weeds occurring in the crop and refer to the weed table to ensure that the weeds present are those susceptible to HARMONY® M SX. The susceptibility ratings of weeds in the following table refer to good spray cover and good growing conditions.

| Weed species | 2 expanded leaves | 6 expanded leaves |
|---|---|---|
| Black-bindweed | S | S |
| Charlock | S | S |
| Chickweed, Common | S | S |
| Dead-nettle, Red | S | S |
| Fat-hen | S | - |
| Forget-me-not | S | S |
| Hemp-nettle, Common | S | S |
| Knotgrass | S | S |
| Mayweeds | S | S |
| Orache, Common | S | S |
| Poppy, Common | S | S |
| Redshank | S | S |
| Shepherd's-purse | S | S |
| Sowthistle, Smooth | S | S |
| Speedwell, Common field | S | S |
| Speedwell, Ivy-leaved | S | - |
| Spurrey, Corn | S | S |
| Volunteer Rape | S | S |
| Volunteer Sugar Beet | S | S |

S = Susceptible

**Weed Resistance**

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 resistant to a herbicide if it survives a correctly-applied treatment at the recommended dose. For the control of Corn Marigold and Chickweed, this product must always be applied in a mixture with an alternate mode of action herbicide at recommended rates. Development of resistance within a weed species can be avoided or delayed by alternating (or tank-mixing) with suitable products having a different mode of action.



**Crops**

HARMONY® M SX can be used on all varieties of winter wheat (except Durum wheat) , spring wheat, winter barley, spring barley and winter oats between the growth stages given below.

**Timing**

HARMONY® M SX should be applied in the spring from the three-leaf stage of the crop up to the flag leaf fully emerged stage of crop growth (GS 39).

**Dose**

Spring barley and spring wheat - apply at 100 g/ha
Winter wheat and winter barley - apply at 125 g/ha
Winter oats – apply at 125g/ha

**Soil and Weather**
HARMONY® M SX can be used on all soil types. Weed control may be reduced when conditions are very dry. Rain within four hours of application may reduce the effectiveness of the product.

**Following Crops**
Only cereals, oilseed rape, field beans or oilseed rape may be sown in the same calendar year as harvest of a cereal crop treated with HARMONY® M SX. In the event of a crop failure for any reason, sow only a cereal crop within three months of application of HARMONY® M SX. Prior to sowing, soil should be ploughed and cultivated to a depth of at least 15-cm.

**Volume and Application**
BEFORE USING HARMONY® M SX, SPRAYING EQUIPMENT MUST BE CLEAN AND FREE FROM CONTAMINATION WITH OTHER PESTICIDES. Application should be made in 200 litres of water per hectare using suitable equipment to give good spray cover of the weeds. Use a conventional field crop sprayer at a pressure of 2 - 3 bars and apply as a MEDIUM spray. When applying HARMONY® M SX, care should be taken not to overlap spray swaths.

**Mixing**
Quarter fill the spray tank with clean water, start the agitation and add the required quantity of HARMONY® M SX directly to the tank without prior creaming. Continue agitation while topping up the tank and while spraying.

**Compatibility**
In any tank-mix add HARMONY® M SX to the tank first and ensure it is fully dispersed before adding the partner product. Do not allow HARMONY® M SX to come into contact with undiluted pesticide concentrate. Products should only be tank-mixed if each product can be applied within the label recommendations for its use. For further information contact your DuPont distributor.

**Warning**
EXTREME CARE SHOULD BE TAKEN TO AVOID DAMAGE BY DRIFT OF SPRAY ONTO BROAD-LEAVED PLANTS OUTSIDE THE TARGET AREA OR ONTO PONDS, WATERWAYS OR DITCHES. SPRAYING EQUIPMENT SHOULD NOT BE DRAINED OR FLUSHED ONTO LAND PLANTED OR INTENDED FOR PLANTING WITH TREES OR CROPS OTHER THAN CEREALS.

**Spray-Tank Clean-Out**
POOR CLEANOUT PRACTICES AND INSUFFICIENT WATER VOLUMES USED FOR THE RINSE PROCEDURE MAY RESULT IN INADEQUATE REMOVAL OF PRODUCT DEPOSITS. SUBSEQUENT USE OF APPLICA-

TION EQUIPMENT IN THESE CIRCUMSTANCES MAY RESULT IN DAMAGE TO NON-CEREAL CROPS.

TO AVOID SUBSEQUENT DAMAGE TO CROPS OTHER THAN CEREALS, IMMEDIATELY AFTER SPRAYING HARMONY® M SX THOROUGHLY CLEAN ALL SPRAY EQUIPMENT, INCLUDING INSIDE AND OUTSIDE OF LID, USING THE FOLLOWING PROCEDURE:

Always start with a clean tank and spray system. Clean spray equipment thoroughly immediately after use.

1. Thoroughly and completely rinse all interior tank surfaces (including lid) with water (use at least 10% of the tank capacity), taking care to remove any visible deposits. Flush pump, filters and boom after removing in-line strainers, nozzle tips and screens (clean these parts separately). Drain the remainder of the rinsate from the tank.
2. Repeat the rinse, flush and drain.
3. Dispose of washings safely. Do not spray onto sensitive crop or land intended for cropping with sensitive crop.

**Note:**
Consult label tank cleanup procedures for all tank mix partners and be sure to use the most rigorous procedure recommended.



**Notice to Buyer**

***All goods supplied by us are of a high grade and we believe them to be suitable for any purpose for which we expressly supply them, but as we cannot exercise control over their mixing or use, 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 for any damage or injury whatsoever arising from their storage, handling, application or use.***

**SAFETY DATA SHEET according to Regulation (EC) No 1907/2006 and 453/2010**

**Version 5.0 (replaces: Version 4.0) Revision Date 07.02.2014** **Ref. 130000025456**

This Safety Data Sheet adheres to the standards and regulatory requirements of the Republic of Ireland and may not meet the regulatory requirements of other countries.

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Product name : HARMONY® M SX
Synonyms : C11440510
DPX-E8698 44SG

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

Use of the Substance/Mixture : Herbicide

### 1.3. Details of the supplier of the safety data sheet

Company : Du Pont (UK) Limited
Wedgwood Way
Stevenage, Herts. SG1 4QN United Kingdom

Telephone : +44 (0) 1438 734 000

E-mail address : sds-support@che.dupont.com

### 1.4. Emergency telephone number

Emergency telephone number : +353 (0)1 901 4670



## SECTION 2: Hazards identification

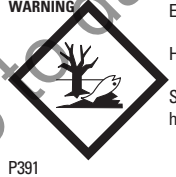
### 2.1. Classification of the substance or mixture

Acute aquatic toxicity, Category 1 : H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 1 : H410: Very toxic to aquatic life with long lasting effects.

Dangerous for the environment : R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### 2.2. Label elements

**WARNING**



Environment

H410: Very toxic to aquatic life with long lasting effects.

Special labelling of certain substances and mixtures: EUH401: To avoid risks to human health and the environment, comply with the instructions for use.,

P391 : Collect spillage.
P501 : Dispose of contents/ container to an approved waste disposal plant.
SP 1 : 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).

### 2.3. Other hazards

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

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

not applicable

### 3.2. Mixtures

| | | | |
|---|---|---|---|
| | | | |

**Thifensulfuron methyl (CAS-No.79277-27-3)**

| | | | |
|---|---|---|---|
| | N;R50/53 | Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410 | 40 % |

**Metsulfuron methyl (CAS-No.74223-64-6)**

| | | | |
|---|---|---|---|
| | N;R50/53 | Aquatic Acute 1; H400<br>Aquatic Chronic 1; H410 | 4 % |

**Sodium carbonate (CAS-No.497-19-8) (EC-No.207-838-8)**

| | | | |
|---|---|---|---|
| 01-2119485498-19 | Xi;R36 | Eye Irrit. 2; H319 | >= 10 - < 15 % |

**Lignosulfonic acid, sodium salt, sulfomethylated (CAS-No.68512-34-5)**

| | | | |
|---|---|---|---|
| | Xi;R36 | Eye Irrit. 2; H319 | >= 1 - < 5 % |

The above products are REACH compliant; Registration number(s) may not be provided because substance(s) are exempted, not yet registered under REACH or are registered under another regulatory process (biocide uses, plant protection products), etc.

For the full text of the R-phrases mentioned in this Section, see Section 16.
For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General advice : Never give anything by mouth to an unconscious person. For specialist advice contact the National Poisons Information Service. Healthcare Professionals: (01) 809 2566 or (01) 837 9964 (24h per day – 365 days per year). Public Poisons Information Line: (01) 809 2166 (8am-10pm).

Inhalation : Move to fresh air. Consult a physician after significant exposure. Artificial respiration and/or oxygen may be necessary.

Skin contact : Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use.

Eye contact : If easy to do, remove contact lens, if worn. Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist.

Ingestion : Obtain medical attention. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is conscious: Rinse mouth with water.

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

Symptoms : No cases of human intoxication are known and the symptoms of experimental intoxication are not known.

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

Treatment : Treat symptomatically.

## SECTION 5: Firefighting measures

**5.1. Extinguishing media**

Suitable extinguishing media : Water spray, Dry chemical, Foam, Carbon dioxide (CO2)

Extinguishing media which shall not be used for safety reasons : High volume water jet, (contamination risk)

**5.2. Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO2) Nitrogen oxides (NOx)

**5.3. Advice for firefighters**

Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

: (on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray.

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Personal precautions : Control access to area. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid breathing dust. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

**6.2. Environmental precautions**

Environmental precautions : Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. If the product contaminates rivers and lakes or drains inform respective authorities.

**6.3. Methods and materials for containment and cleaning up**

Methods for cleaning up : Clean-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.
Clean-up methods - large spillage Avoid dust formation. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
If spill area is on ground near valuable plants or trees, remove 5 cm of top soil after initial clean-up.

Other information : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

**6.4. Reference to other sections**

For personal protection see section 8., For disposal instructions see section 13.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling**

Advice on safe handling : Use only according to our recommendations. Use only clean equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist. Wear personal protective equipment. For personal protection see section 8. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solution as soon as possible - Do not store. Provide appropriate exhaust ventilation at places where dust is formed. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Avoid exceeding of the given occupational exposure limits (see section 8).

Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Avoid dust formation in confined areas. During processing, dust may form explosive mixture in air.

**7.2. Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Store in a place accessible by authorized persons only. Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

Advice on common storage : No special restrictions on storage with other products.

Other data : Stable under recommended storage conditions.

**7.3. Specific end use(s)**

Plant protection products subject to Regulation (EC) No 1107/2009.

## SECTION 8: Exposure controls/personal protection

**8.1. Control parameters**

If sub-section is empty then no values are applicable.

**Components with workplace control parameters**

| Type<br>Form of exposure | Control parameters | Update | Basis | Remarks |
|---|---|---|---|---|

**Sucrose (CAS-No. 57-50-1)**

| | | | | |
|---|---|---|---|---|
| TWA | 10 mg/m³ | 2010 | ELV (IE) | |
| STEL | 20 mg/m³ | 2010 | ELV (IE) | |

**8.2. Exposure controls**

Engineering measures : Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery. Use sufficient ventilation to keep employee exposure below recommended limits.

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection : Material: Nitrile rubber
Glove thickness: 0.3 mm
Glove length: Standard glove type. Protection index: Class 6
Wearing time: > 480 min
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Gauntlets shorter than 35 cm long shall be worn under the combination sleeve. Before removing gloves clean them with soap and water.

Skin and body protection : Manufacturing and processing work: Full protective clothing Type 5 (EN 13982-2) Mixer and loaders must wear: Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034) Rubber apron Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Spray application - outdoor: Tractor / sprayer with hood: No personal body protection normally required.

Tractor / sprayer without hood: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Backpack / knapsack sprayer: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Mechanical automatized spray application in closed tunnel: No personal body protection normally required.

When exceptional circumstances require an access to the treated area before the end of re-entry periods, wear full protective clothing Type 6 (EN 13034), nitrile rubber gloves class 3 (EN 374) and nitrile rubber boots (EN 13832-3 / EN ISO 20345).

To optimize the ergonomy it may be recommended to use cotton underwear when wearing some fabrics. Take advice from supplier. Garment materials that are resistant to both water vapour and air will maximise wearing comfort. Materials should be robust to maintain the integrity and barrier in use. The permeation resistance of the fabric must be verified independently of the « type » protection recommended, to ensure an appropriate performance level of the material adequate to the corresponding agent and type of exposure.

Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. Only protected handlers may be in the area during application.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. For environmental protection remove and wash all contaminated protective equipment before re-use. Remove clothing/PPE

immediately if material gets inside. Wash thoroughly and put on clean clothing. Dispose of rinse water in accordance with local and national regulations.

Respiratory protection : Manufacturing and processing work: Half mask with a particle filter FFP1 (EN149)

Mixer and loaders must wear: Half mask with a particle filter FFP1 (EN149)

Spray application - outdoor: Tractor / sprayer with hood: No personal respiratory protective equipment normally required.

Tractor / sprayer without hood: Low application (horticulture, field crops): Half mask with a particle filter P1 (EN 143).

Backpack / knapsack sprayer: Low application (horticulture, field crops): Half mask with a particle filter P1 (EN 143).

Mechanical automatized spray application in closed tunnel: No personal respiratory protective equipment normally required.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Form | : granules |
| Colour | : brown, light brown |
| Odour | : slight |
| Odour Threshold | : not determined |
| pH | : 8.7 at 10 g/l ( 25 °C) |
| Melting point/range | : Not available for this mixture. |
| Boiling point/boiling range | : not applicable |
| Flash point | : not applicable |
| Flammability (solid, gas) | : The product is not flammable. |
| Thermal decomposition | : Not available for this mixture. |
| Auto-ignition temperature | : Not available for this mixture. |
| Oxidizing properties | : The product is not oxidizing. |
| Explosive properties | : Not explosive |
| Lower explosion limit/ lower flammability limit | : Not available for this mixture. |
| Upper explosion limit/ upper flammability limit | : Not available for this mixture. |
| Vapour pressure | : Not available for this mixture. |
| Relative density | : not applicable |
| Bulk density | : 0.696 kg/m$^3$, packed |
| Water solubility | : soluble |
| Partition coefficient: n-octanol/water | : not applicable |
| Viscosity, kinematic | : not applicable |
| Relative vapour density | : not applicable |
| Evaporation rate | : Not available for this mixture. |

### 9.2. Other information

Phys.-chem./other information : No other data to be specially mentioned.

## SECTION 10: Stability and reactivity

**10.1. Reactivity** : No hazards to be specially mentioned.

**10.2. Chemical stability** : The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions** : No dangerous reaction known under conditions of normal use. Polymerization will not occur. No decomposition if stored and applied as directed.

**10.4. Conditions to avoid** : Decomposes on heating. To avoid thermal decomposition, do not overheat. Under severe dusting conditions, this material may form explosive mixtures in air.

**10.5. Incompatible materials** : No materials to be especially mentioned.

**10.6. Hazardous decomposition products** : Sulphur oxides

## SECTION 11: Toxicological information

**11.1. Information on toxicological effects**

Acute oral toxicity : LD50 / rat : > 5,000 mg/kg
Method: Fixed Dose Method
(Data on the product itself) Information source: Internal study report

Acute inhalation toxicity : Thifensulfuron methyl
LC50 / 4 h rat : > 7.9 mg/l

Metsulfuron methyl
LC50 / 4 h rat : > 5.3 mg/l

Acute dermal toxicity : LD50 / rat : > 5,000 mg/kg
Method: OECD Test Guideline 402
(Data on the product itself) Information source: Internal study report

Skin irritation : rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
(Data on the product itself) Information source: Internal study report

Eye irritation : rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
(Data on the product itself) Information source: Internal study report

Sensitisation : guinea pig Maximisation Test (GPMT)
Result: Animal test did not cause sensitization by skin contact.
Method: OECD Test Guideline 406
(Data on the product itself) Information source: Internal study report

Repeated dose toxicity : Thifensulfuron methyl
The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral - feed multiple species
Reduced body weight gain

Metsulfuron methyl
Oral rat

Exposure time: 90 d
Reduced body weight gain, Liver effects

Oral rat
Reduced body weight gain, Organ weight changes, Liver

Dermal rabbit
Skin irritation

Mutagenicity assessment : Thifensulfuron methyl
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Metsulfuron methyl
Animal testing did not show any mutagenic effects. Did not cause genetic damage in cultured bacterial cells. Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.

Carcinogenicity assessment : Thifensulfuron methyl
Animal testing did not show any carcinogenic effects.

Metsulfuron methyl
Not classifiable as a human carcinogen. Did not show carcinogenic effects in animal experiments.

Toxicity to reproduction assessment : Thifensulfuron methyl
No toxicity to reproduction

Metsulfuron methyl
No toxicity to reproduction Animal testing did not show any effects on fertility.

Assessment teratogenicity : Thifensulfuron methyl
Did not show teratogenic effects in animal experiments. Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Metsulfuron methyl
Animal testing showed no developmental toxicity.

STOT - single exposure : The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard : The mixture does not have properties associated with aspiration hazard potential.

## SECTION 12: Ecological information

### 12.1. Toxicity

Toxicity to fish : LC50 / 96 h / Oncorhynchus mykiss (rainbow trout): > 130 mg/l
Method: OECD Test Guideline 203
(Data on the product itself) Information source: Internal study report

Toxicity to aquatic plants : EbC50 / 72 h / Pseudokirchneriella subcapitata (green algae): 0.0609 mg/l
Method: OECD Test Guideline 201
(Data on the product itself) Information source: Internal study report

EbC50 / 336 h / Lemna gibba (duckweed): 0.029 mg/l
Method: US EPA Test Guideline OPPTS 850.4400
(Data on the product itself) Information source: Internal study report

Toxicity to aquatic invertebrates : LC50 / 48 h / Daphnia magna (Water flea): > 130 mg/l
Method: OECD Test Guideline 202
(Data on the product itself) Information source: Internal study report

Toxicity to soil dwelling organisms : LC50 / 14 d / Eisenia fetida (earthworms): > 1,000 mg/kg
Method: OECD Test Guideline 207
(Data on the product itself) Information source: Internal study report

Toxicity to other organisms : LD50 / 48 h / Apis mellifera (bees): > 0.0917 mg/kg
Method: OECD Test Guideline 213
(Data on the product itself) Information source: Internal study report

LD50 / 48 h / Apis mellifera (bees): > 0.100 mg/kg
Method: OECD Test Guideline 213
(Data on the product itself) Information source: Internal study report

Chronic toxicity to fish : Thifensulfuron methyl
NOEC / 62 d / Oncorhynchus mykiss (rainbow trout): 10.6 mg/l

Metsulfuron methyl
NOEC / 21 h / Oncorhynchus mykiss (rainbow trout): 68 mg/l

Chronic toxicity to aquatic Invertebrates : Thifensulfuron methyl
NOEC / 28 d / Americamysis bahia (mysid shrimp): 7.93 mg/l

Metsulfuron methyl
NOEC / 21 h / Daphnia magna (Water flea): 100 mg/l

**12.2. Persistence and degradability**

Biodegradability : Not readily biodegradable. Estimation based on data obtained on active ingredient.

**12.3. Bioaccumulative potential**

Bioaccumulation : Does not bioaccumulate. Estimation based on data obtained on active ingredient.

**12.4. Mobility in soil**

Mobility in soil : Moderately mobile in soils

**12.5. Results of PBT and vPvB assessment**

PBT and vPvB assessment : This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). / This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6. Other adverse effects**

Additional ecological information : No other ecological effects to be specially mentioned See product label for additional application instructions relating to environmental precautions.

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods**

Product : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the

competent authorities. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Do not re-use empty containers.

## SECTION 14: Transport information

### ADR

14.1. UN number : 3077
14.2. UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Metsulfuron methyl)
14.3. Transport hazard class(es) : 9
14.4. Packing group : III
14.5. Environmental hazards : Environmentally hazardous
14.6. Special precautions for user:
Tunnel restriction code : (E)

### IATA_C

14.1. UN number : 3077
14.2. UN proper shipping name : Environmentally hazardous substance, solid, n.o.s. (Thifensulfuron-methyl, Metsulfuron methyl)
14.3. Transport hazard class(es) : 9
14.4. Packing group : III
14.5. Environmental hazards : Environmentally hazardous
14.6. Special precautions for user:
DuPont internal recommendations and transport guidance : ICAO / IATA cargo aircraft only

### IMDG

14.1. UN number : 3077
14.2. UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Thifensulfuron-methyl, Metsulfuron methyl)
14.3. Transport hazard class(es) : 9
14.4. Packing group : III
14.5. Environmental hazards : Marine pollutant
14.6. Special precautions for user:
no data available

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

not applicable

## SECTION 15: Regulatory information

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

Other regulations : The product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008. Take note of Dir 94/33/EC on the protection of young people at work. Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Take note of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances. Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

**15.2. Chemical Safety Assessment**

A Chemical Safety Assessment is not required for this/these products
The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.

## SECTION 16: Other information

**Text of R-phrases mentioned in Section 3**

| | |
|---|---|
| R36 | : Irritating to eyes. |
| R50/53 | : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

**Full text of H-Statements referred to under section 3.**

| | |
|---|---|
| H319 | : Causes serious eye irritation. |
| H400 | : Very toxic to aquatic life. |
| H410 | : Very toxic to aquatic life with long lasting effects. |
| Other information | : professional use |

**Abbreviations and acronyms**

| | |
|---|---|
| ADR | : European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ATE | : Acute toxicity estimate |
| CAS-No. | : Chemical Abstracts Service number |
| CLP | : Classification, Labelling and Packaging |
| EbC50 | : Concentration at which 50% reduction of biomass is observed |
| EC50 | : Median effective concentration |
| EN | : European Norm |
| EPA | : Environmental Protection Agency |
| ErC50 | : Concentration at which a 50% inhibition of growth rate is observed |
| EyC50 | : Concentration at which 50 % inhibition of yield is observed |
| IATA_C | : International Air Transport Association (Cargo) |
| IBC | : International Bulk Chemical Code |
| ICAO | : International Civil Aviation Organization |
| ISO | : International Standard Organization |
| IMDG | : International Maritime Dangerous Goods |
| LC50 | : Median Lethal Concentration |
| LD50 | : Median Lethal Dose |
| LOEC | : Lowest Observed Effect Concentration |
| LOEL | : Lowest observable effect level |
| MARPOL | : International Convention for the Prevention of Marine Pollution from Ships |
| n.o.s. | : Not Otherwise Specified |
| NOAEC | : No Observed Adverse Effect Concentration |
| NOAEL | : No observed adverse effect level |
| NOEC | : No Observed Effect Concentration |
| NOEL | : No Observed Effect Level |
| OECD | : Organisation for Economic Co-operation and Development |
| OPPTS | : Office of Prevention, Pesticides and Toxic Substances |
| PBT | : Persistent, Bioaccumulative and Toxic |
| STEL | : Short term exposure limit |
| TWA | : time weighted average |
| vPvB | : very Persistent and very Bioaccumulative |

**Further information**

Before use read DuPont's safety information., Take notice of the directions of use on the label.
® Registered trademark of E.I. du Pont de Nemours and Company

Significant change from previous version is denoted with a double bar.



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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.