

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

This SDS adheres to the standards and regulatory requirements of the European Union and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product information**

Product name : BRUSH-OFF®

 Synonyms : B10838190
 : DPX-T6376 WG

Use of the Substance/Mixture : Herbicide

 Company : DuPont de Nemours South Africa (Pty) Ltd
 34 Whiteley Road
 Block B, 1st Floor
 Melrose Arch
 South Africa

Telephone : +27 11 218 8600

Telefax : +27 11 218 8664

Emergency telephone number : +27 (0)83 123 3911

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

2. HAZARDS IDENTIFICATION

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	EC-No.	Registration number	Classification	Concentration [%]
Metsulfuron methyl	74223-64-6			N; R50 -R53	60
Trisodium orthophosphate	7601-54-9	231-509-8		Xi; R36/38	>= 5 - < 10
Alkylinaphthalenesulfonic acid, sodium salt/formaldehyde polycondensate	68425-94-5			Xi; R36/38	>= 5 - < 10

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

4. FIRST AID MEASURES

General advice : Never give anything by mouth to an unconscious person.

Inhalation : Move to fresh air. Artificial respiration and/or oxygen may be necessary. Consult

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

- a physician after significant exposure.
- 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 : 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.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO₂),
- Extinguishing media which shall not be used for safety reasons : High volume water jet, (contamination risk),
- Specific hazards during fire fighting : Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO₂) nitrogen oxides (NO_x)
- Special protective equipment for fire-fighters : 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.

6. ACCIDENTAL RELEASE MEASURES

- 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.
- 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.
- Methods for cleaning up : Clean-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

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.

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

7. HANDLING AND STORAGE**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.

Storage

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

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

Storage temperature : < 140 °C

Other data : Stable under recommended storage conditions.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Type Form of exposure	Control parameters	Update	Basis
Sucrose	57-50-1	TWA	10 mg/m ³	1995	ZA REL
		STEL	20 mg/m ³	1995	ZA REL

Engineering measures

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery.

Personal protective equipment

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

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

Respiratory protection : Spray application - outdoor: Half mask with a particle filter FFP1 (EN149)

Respiratory protection : Spray application - indoor: Half mask with a particle filter FFP1 (EN149)

Hand protection : Material: Nitrile rubber
Glove thickness: 0,4 - 0,7 mm
Glove length
: Gauntlets
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 should be discarded and replaced if there is any indication of degradation or chemical breakthrough., Before removing gloves clean them with soap and water.

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

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) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Spray application - outdoor: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

Spray application - indoor: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345).

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.

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

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	granular,
Colour	:	off-white,
Odour	:	none,
pH	:	4,2
Flash point	:	not applicable
Relative density	:	1,47 at 25 °C
Bulk density	:	680 kg/m ³
Water solubility	:	2,8 g/l , dispersible

10. STABILITY AND REACTIVITY

Conditions to avoid	:	To avoid thermal decomposition, do not overheat. Under severe dusting conditions, this material may form explosive mixtures in air.
Materials to avoid	:	No materials to be especially mentioned.
Hazardous reactions	:	No dangerous reaction known under conditions of normal use. Polymerization will not occur. No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity	
• Metsulfuron methyl	: LD50/ rat : > 5 000 mg/kg
Acute inhalation toxicity	
• Metsulfuron methyl	: LC50/ 4 h/ rat : > 5,3 mg/l
Acute dermal toxicity	
• Metsulfuron methyl	: LD50/ rabbit : > 2 000 mg/kg
Skin irritation	
• Metsulfuron methyl	: rabbit Result: No skin irritation
Eye irritation	
• Metsulfuron methyl	: rabbit Result: No eye irritation

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

Sensitisation

- Metsulfuron methyl : guinea pig Result: Animal test did not cause sensitization by skin contact.

Mutagenicity assessment

- Metsulfuron methyl : Did not show mutagenic effects in animal experiments., 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

- Metsulfuron methyl : Did not show carcinogenic effects in animal experiments.

Toxicity to reproduction assessment

- Metsulfuron methyl : Animal testing did not show any effects on fertility.

Further information : No data is available on the product itself.

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

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

Bioaccumulation : 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).

Toxicity to fish

- Metsulfuron methyl : LC50 / 96 h/ Oncorhynchus mykiss (rainbow trout) : > 150 mg/l

Toxicity to algae

- Metsulfuron methyl : / EbC50/ 72 h/ Pseudokirchneriella subcapitata (green algae): 0,165 mg/l

Aquatic toxicity

- Metsulfuron methyl : / EC50/ 48 h/ Daphnia magna (Water flea): > 120 mg/l

Chronic toxicity to fish

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

Chronic toxicity to aquatic Invertebrates

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

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

Further information on ecology

Additional ecological information : No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION**ADR**

Class: 9
 Packaging group: III
 Classification Code: M7
 HI No.: 90
 UN number: 3077
 Labelling No.: 9
 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Metsulfuron methyl)

IATA_C

Class: 9
 Packaging group: III
 UN number: 3077
 Labelling No.: 9MI
 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Metsulfuron methyl)

IMDG

Class: 9
 Packaging group: III
 UN number: 3077
 Labelling No.: 9
 Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Metsulfuron methyl)

Marine pollutant: Marine pollutant

15. REGULATORY INFORMATION**Labelling according to EC Directives**

Symbol(s) : N Dangerous for the environment

Hazardous components: Metsulfuron methyl

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

**BRUSH-OFF®**

Version 2.1

Revision Date 08.11.2010

Ref.130000023977

S-phrase(s)	:	S 2	Keep out of the reach of children.
		S13	Keep away from food, drink and animal feedingstuffs.
		S20/21	When using do not eat, drink or smoke.
		S35	This material and its container must be disposed of in a safe way.
		S46	If swallowed, seek medical advice immediately and show this container or label.
		S57	Use appropriate container to avoid environmental contamination.
		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).

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

16. OTHER INFORMATION**Text of R-phrases mentioned in Section 3**

R36/38	Irritating to eyes and skin.
R50	Very toxic to aquatic organisms.
R53	May cause long-term adverse effects in the aquatic environment.

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.