

DUAL MAGNUM 960 EC

Version 9

Revision Date 23.11.2010

Print Date 23.11.2010

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

PRODUCT INFORMATION

Product name : DUAL MAGNUM 960 EC
Design code : A9396B
Use : Herbicide
Company : Syngenta Crop Protection AG
 Postfach
 CH-4002 Basel
 Switzerland
Telephone : +41 61 323 11 11
Telefax : +41 61 323 12 12
**Emergency tele-
phone number** : +44 1484 538444
E-mail address : safetydatasheetcoordination@syngenta.com



Irritant

Dangerous for
the environment

2. HAZARDS IDENTIFICATION

May cause sensitization by skin contact.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

| Chemical Name | CAS-No. | EC-No. (REACH Regis- tration Number) | Symbol(s) | R-phrase(s) | Concentration |
|------------------------------------------------|------------|--------------------------------------------|-----------|-----------------------------|---------------|
| S-metolachlor | 87392-12-9 | | Xi, N | R43 R50/53 | 87.27 % W/W |
| amines, tallow alkyl, ethoxylated | 61791-26-2 | | N, Xn | R22 R41 R51/53 | 1 - 5 % W/W |
| solvent naphtha (petroleum), heavy arom. | 64742-94-5 | 265-198-5 | Xn, N | R51/53 R65 R66 R67 | 1 - 5 % W/W |

Substances for which there are Community workplace exposure limits.

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

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4. FIRST AID MEASURES

- General advice** : Have the product container, label or Material Safety Data Sheet with you when calling the Syngenta emergency number, a poison control center or physician, or going for treatment.
- Inhalation** : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.
- Skin contact** : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- Eye contact** : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.
- Medical advice** : There is no specific antidote available.
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media** : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray
- Extinguishing media which shall not be used for safety reasons** : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire fighting** : As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
- Special protective equipment for fire-fighters** : Wear full protective clothing and self-contained breathing apparatus.
- Further information** : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.

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6. ACCIDENTAL RELEASE MEASURES

- Personal precautions** : Refer to protective measures listed in sections 7 and 8.
- Environmental precautions** : Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
- Methods for cleaning up** : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
- Additional advice** : If the product contaminates rivers and lakes or drains inform respective authorities.

7. HANDLING AND STORAGE

HANDLING

- Advice on safe handling** : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

STORAGE

- Requirements for storage areas and containers** : No special storage conditions required.
Keep containers tightly closed in a dry, cool and well-ventilated place.
Keep out of the reach of children.
Keep away from food, drink and animal feedingstuffs.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

| Components | Exposure limit(s) | Type of exposure limit | Source |
|---------------|----------------------|------------------------|----------|
| S-metolachlor | 10 mg/m ³ | 8 h TWA | SYNGENTA |

ENGINEERING MEASURES

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

If airborne mists or vapors are generated, use local exhaust ventilation controls.

Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.

Where necessary, seek additional occupational hygiene advice.

PERSONAL PROTECTIVE EQUIPMENT

- Protective measures** : The use of technical measures should always have priority over the use of personal protective equipment.

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- When selecting personal protective equipment, seek appropriate professional advice.
Personal protective equipment should be certified to appropriate standards.
- Respiratory protection** : No personal respiratory protective equipment normally required. A particulate filter respirator may be necessary until effective technical measures are installed.
- Hand protection** : Chemical resistant gloves should be used. Gloves should be certified to an appropriate standard. Gloves should have a minimum breakthrough time that is appropriate to the duration of exposure. The breakthrough time of gloves varies according to the thickness, material and manufacturer. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Suitable material
Nitrile rubber
- Eye protection** : Eye protection is not usually required. Follow any site specific eye protection policies.
- Skin and body protection** : Assess the exposure and select chemical resistant clothing based on the potential for contact and the permeation / penetration characteristics of the clothing material. Wash with soap and water after removing protective clothing. Decontaminate clothing before re-use, or use disposable equipment (suits, aprons, sleeves, boots, etc.) Wear as appropriate:
impervious protective suit

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical state** : liquid
Form : liquid clear
Colour : yellowish to brown
Odour : not characteristic, weak
pH : 5.2 at 1 % w/v
Flash point : 120 °C at 1,013.25 hPa DIN 51758
Oxidizing properties : not oxidizing
Explosive properties : Not explosive
Density : 1.104 g/cm³
Miscibility : Miscible
: Miscible
Viscosity, dynamic : 110.7 mPa.s at 20 °C
: 34.98 mPa.s at 40 °C
Surface tension : 32.3 - 32.4 mN/m at 20 °C

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10. STABILITY AND REACTIVITY

Hazardous decomposition products : Combustion or thermal decomposition will evolve toxic and irritant vapors.

Hazardous reactions : None known.
Hazardous polymerisation does not occur.
Stable under normal conditions.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity : LD50 rat, 2,267 mg/kg

Acute inhalation toxicity : LC50 rat, 4.06 mg/l , 4 h

Acute dermal toxicity : LD50 rabbit, > 2,020 mg/kg

Skin irritation : rabbit: Non-irritating

Eye irritation : rabbit: Non-irritating

Sensitisation : guinea pig: A skin sensitizer

Long term toxicity
S-metolachlor : Did not show mutagenic effects in animal experiments.
Did not show carcinogenic effects in animal experiments.
Did not show reproductive toxicity effects in animal experiments.
Did not show teratogenic effects in animal experiments.

: No adverse effect has been observed in chronic toxicity tests.

12. ECOLOGICAL INFORMATION**ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)**

Mobility
S-metolachlor : S-metolachlor has medium mobility in soil.

Bioaccumulation
S-metolachlor : Does not bioaccumulate.

ECOTOXICITY EFFECTS

Toxicity to fish : LC50 Salmo trutta (trout), 4.3 mg/l , 96 h

Toxicity to aquatic invertebrates : EC50 Daphnia magna (Water flea), 24.0 mg/l , 48 h

Toxicity to aquatic plants

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S-metolachlor : EbC50 Pseudokirchneriella subcapitata (green algae), 33 µg/l ,
72 h
ErC50 Pseudokirchneriella subcapitata (green algae), 72 µg/l ,
72 h

13. DISPOSAL CONSIDERATIONS

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

14. TRANSPORT INFORMATION**Land transport***ADR/RID:*

UN number: 3082

Class: 9

Labels: 9

Packaging group: III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR)

Environmentally hazardous: Environmentally hazardous

Sea transport*IMDG:*

UN number: 3082

Class: 9

Labels: 9

Packaging group: III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR)

Marine pollutant : Marine pollutant

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Air transport

IATA-DGR:

UN/ID No.: UN 3082

Class: 9

Labels: 9

Packaging group: III

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR)

15. REGULATORY INFORMATION

Labelling according to EC Directives

Hazardous components which must be listed on the label:

- S-metolachlor

| | | |
|---------------------|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Symbol(s) | : Xi N | Irritant Dangerous for the environment |
| R-phrases(s) | : R43 R50/53 | May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| S-phrases(s) | : S 2 S13 S20/21 S24 S35 S37 S57 | Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. Avoid contact with skin. This material and its container must be disposed of in a safe way. Wear suitable gloves. Use appropriate container to avoid environmental contamination. |

16. OTHER INFORMATION

Further information

Text of R-phrases mentioned in Section 3:

| | |
|---------------|--------------------------------------------------------------------------------------------------|
| R22 | Harmful 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. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R66 | Repeated exposure may cause skin dryness or cracking. |
| R67 | Vapours may cause drowsiness and dizziness. |

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