

DUAL GOLD 960 EC

Version 9

Revision Date 02.03.2005

Print Date 02.03.2005

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

PRODUCT INFORMATION

Product name : DUAL GOLD 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 telephone number : +44 1484 538444



Irritant



Dangerous for the environment

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	EC-No.	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

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

3. Hazards identification

May cause sensitization by skin contact.

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

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 : Remove to fresh air.

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- Inhalation** : Remove to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or Poison Control Center 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
water spray
- Extinguishing media which must 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** : In the event of fire, wear 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 and collect spillage 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.
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7. HANDLING AND STORAGE**HANDLING**

- Advice on safe handling** : No special technical protective measures required.
No special handling advice 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 feed.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	Exposure limit(s)	Value type	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. 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 changed when breakthrough is suspected. Suitable material
nitrile rubber
- Eye protection** : Eye protection is not usually required. Follow any site specific eye protection policies. Eye/face protection should be certified to EN 166.
- 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

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9. PHYSICAL AND CHEMICAL PROPERTIES

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	: 1,103.8 kg/m ³
Water solubility	: 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

10. STABILITY AND REACTIVITY

Hazardous decomposition products	: Combustion or thermal decomposition will evolve toxic and irritant vapors.
Hazardous reactions	: None known. Hazardous polymerization 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 irritant
Eye irritation	: Rabbit: non irritant

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Sensitization : Guinea Pig sensitizing

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

Bioaccumulation : S-metolachlor does not bioaccumulate

Stability in water : S-metolachlor is not persistent in water

Stability in soil : S-metolachlor is not persistent in soil

Mobility : S-metolachlor has medium mobility in soil

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

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 for local recycling or waste disposal.
Do not re-use empty containers.

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

UN-No: 3082
Class: 9
Danger Label Number : 9
Packaging group III
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(S-METOLACHLOR)

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Sea transport

IMDG:

UN-No: 3082
 Class: 9
 Danger Label Number : 9
 Packaging group: III
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
 (S-METOLACHLOR)

Marine pollutant : Marine pollutant

Air transport

IATA-DGR

UN-No: 3082
 Class: 9
 Danger Label Number : 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-phrase(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-phrase(s)	: S 2 S13 S20/21 S24 S35 S37	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.

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Use appropriate container to avoid environmental contamination.

16. OTHER INFORMATION**Further information**

Text of R phrases mentioned in Section 2:

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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