

MODDUS ME 250

Version 2

Revision Date 15.04.2005

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

PRODUCT INFORMATION

Product name : MODDUS ME 250
Design Code : A8587F
Use : Plant growth regulator
Company : Syngenta Crop Protection AG
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 CH-4002 Basel
 Switzerland
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Harmful

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components

Chemical Name	CAS-No.	EC-No.	Symbol(s)	R-phrase(s)	Concentration
trinexapac-ethyl	95266-40-3		N	R50/53	26.6 % W/W
poly(oxy-1,2-ethanediyl), alpha-[tris(1-phenylethyl)phenyl]-omega-hydroxy-	99734-09-5			R52/53	5 - 15 % W/W
pentanol, branched and linear	94624-12-1	305-536-1	Xn	R10 R20 R37 R66	50 - 60 % W/W

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

3. Hazards identification

Flammable.
 Harmful by inhalation.
 Irritating to respiratory system.
 Harmful 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.

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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
- 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.
Flash back possible over considerable distance.
- 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.
Keep people away from and upwind of spill/leak.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Remove all sources of ignition.
Pay attention to flashback.
- 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.

7. HANDLING AND STORAGE**HANDLING**

- Advice on safe handling** : Avoid contact with skin and eyes.
When using, do not eat, drink or smoke.
Take precautionary measures against static discharges.
Use only in an area containing flame proof equipment.
For personal protection see section 8.

STORAGE

- Requirements for storage areas and containers** : 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.
Keep away from heat and sources of ignition.
Keep away from combustible material.
Keep in an area equipped with sprinklers.
No smoking.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	Exposure limit(s)	Value type	Source
pentan-1-ol	100 ppm 360 mg/m ³	8 h TWA	ACGIH DFG

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** : A combination gas, vapor and particulate respirator may be necessary until effective technical measures are installed. Protection provided by air-purifying respirators is limited. Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.
- Hand protection** : Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements.
- 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** : No special protective equipment required. Select skin and body protection based on the physical job requirements.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Form** : liquid
- Colour** : light yellow to reddish brown
- pH** : 2 - 6 at 1 % w/v
- Flash point** : 44 °C at 763 mmHg

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Oxidizing properties	: not oxidizing
Explosive properties	: Not explosive
Density	: 0.93 - 0.97 g/cm ³ at 20 °C
Water solubility	: Miscible
Viscosity, dynamic	: 9.44 mPa.s at 20 °C : 4.71 mPa.s at 40 °C
Surface tension	: 36.8 mN/m at 20 °C : 38.6 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, > 3,000 mg/kg Based on test results obtained with similar product.
Acute dermal toxicity	: LD50 Rat, > 4,000 mg/kg Based on test results obtained with similar product.
Skin irritation	: Rabbit: non irritant Based on test results obtained with similar product.
Eye irritation	: Rabbit: non irritant Based on test results obtained with similar product.
Long term toxicity	Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

12. ECOLOGICAL INFORMATION

ELIMINATION INFORMATION (PERSISTENCE AND DEGRADABILITY)	
Bioaccumulation	: Trinexapac-ethyl does not bioaccumulate.

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- Stability in water** : Trinexapac-ethyl is not persistent in water.
- Stability in soil** : Trinexapac-ethyl is not persistent in soil.
- Mobility** : Trinexapac-ethyl has medium mobility in soil.

ECOTOXICITY EFFECTS

- Toxicity to fish** : LC50 Oncorhynchus mykiss (Rainbow trout), 94 mg/l , 96 h static test
OECD Test Guideline 203
- Toxicity to aquatic invertebrates** : EC50 Daphnia magna (water flea), > 100 mg/l , 48 h static test
OECD Test Guideline 202
- Toxicity to algae** : ERC50 growth rate Anabaena flos-aquae (bluegreen algae), > 100 mg/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 for local recycling or waste disposal.
Do not re-use empty containers.

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

UN-No: 1105
Class: 3
Danger Label Number : 3
Packaging group III
Proper shipping name : PENTANOLS SOLUTION

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Sea transport*IMDG:*

UN-No: 1105
Class: 3
Danger Label Number : 3
Packaging group: III
Proper shipping name : PENTANOLS SOLUTION

Air transport*IATA-DGR*

UN-No: 1105
Class: 3
Danger Label Number : 3
Packaging group: III
Proper shipping name : PENTANOLS SOLUTION

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

Hazardous components which must be listed on the label:

- pentanol mixture of isomers

Symbol(s)	: Xn	Harmful
R-phrase(s)	: R10 R20 R37 R52/53	Flammable. Harmful by inhalation. Irritating to respiratory system. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrase(s)	: S 2 S13 S20/21 S35 S46	Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs. When using do not eat, drink or smoke. This material and its container must be disposed of in a safe way. If swallowed, seek medical advice immediately and show this container or label.

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Use appropriate container to avoid environmental contamination.

Exceptional labelling of special preparations : To avoid risks to man and the environment, comply with the instructions for use.

16. OTHER INFORMATION**Further information**

Text of R phrases mentioned in Section 2:

R10	Flammable.
R20	Harmful by inhalation.
R37	Irritating to respiratory system.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66	Repeated exposure may cause skin dryness or cracking.

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.

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