

CULTAR

Version 5 - This version replaces all previous versions.

Revision Date 29.11.2013

Print Date 29.11.2013

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

1.1 Product identifier

Product name : CULTAR**Design code** : A8164F

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

Use : Plant growth regulator

1.3 Details of the supplier of the safety data sheet

Company : Syngenta Crop Protection AG
Postfach
CH-4002 Basel
Switzerland**Telephone** : +41 61 323 11 11**Telefax** : +41 61 323 12 12**E-mail address** : sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number : +44 1484 538444

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EU) 1272/2008

| | | |
|---------------------------------|-------------------|-------------|
| Acute toxicity (Inhalation) | Category 4 | H332 |
| Reproductive toxicity | Category 2 | H361d |
| Acute aquatic toxicity | Category 1 | H400 |
| Chronic aquatic toxicity | Category 2 | H411 |

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

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn, Harmful**N, Dangerous for the environment****R20: Harmful by inhalation.****R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.****R63: Possible risk of harm to the unborn child.**

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2.2 Label elements

Labelling: Regulation (EC) No. 1272/2008

Hazard pictograms



| | | |
|---------------------------------|---|--|
| Signal word | : | Warning |
| Hazard statements | : | H332 Harmful if inhaled. H361d Suspected of damaging the unborn child. H410 Very toxic to aquatic life with long lasting effects. |
| Precautionary statements | : | P102 Keep out of reach of children. P201 Obtain special instructions before use. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ eye protection/ face protection. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P312 Call a POISON CENTER or doctor/ physician if you feel unwell. P391 Collect spillage. P501 Dispose of contents/ container to an approved waste disposal plant. |
| Supplemental information | : | EUH401 To avoid risks to human health and the environment, comply with the instructions for use. |

Hazardous components which must be listed on the label:

- paclobutrazol

Labelling: EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)



Harmful

Dangerous
for the envi-
ronment

| | | |
|---------------------|---|---|
| R-phrases(s) | : | R20 Harmful by inhalation. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. R63 Possible risk of harm to the unborn child. |
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| | | | |
|-------------|---|--------|--|
| 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. |
| | | S36/37 | Wear suitable protective clothing and gloves. |
| | | S57 | Use appropriate container to avoid environmental contamination. |

Additional Labelling : To avoid risks to man and the environment, comply with the instructions for use.

Hazardous components which must be listed on the label:

- paclobutrazol

2.3 Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

| Chemical Name | CAS-No. EC-No. Registration number | Classification (67/548/EEC) | Classification (REGULATION (EC) No 1272/2008) | Concentration |
|---|--|---|--|---------------|
| paclobutrazol | 76738-62-0 | Xn, N R20/22 R36 R50/53 R63 | Acute Tox.4; H302 Eye Irrit.2; H319 Repr.2; H361d Acute Tox.4; H332 Aquatic Acute1; H400 Aquatic Chronic1; H410 | 22.9 % W/W |
| propane-1,2-diol | 57-55-6 200-338-0 | - | - | 1 - 5 % W/W |
| naphthalenesulfonic acid, dimethyl-, polymer with formaldehyde and methyl-naphthalenesulfonic acid, sodium salt | | Xi R36/38 | Eye Irrit.2; H319 Skin Irrit.2; H315 | 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.

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

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SECTION 4. FIRST AID MEASURES**4.1 Description of 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.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms** : No information available.

4.3 Indication of any immediate medical attention and special treatment needed

- Medical advice** : There is no specific antidote available.
Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES**5.1 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

Do not use a solid water stream as it may scatter and spread fire.

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5.2 Special hazards arising from the substance or mixture

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.

5.3 Advice for firefighters

Wear full protective clothing and self-contained breathing apparatus.

Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so.

Do not flush into surface water or sanitary sewer system.

6.3 Methods and materials for containment and 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).

If the product contaminates rivers and lakes or drains inform respective authorities.

6.4 Reference to other sections

Refer to protective measures listed in sections 7 and 8.

Refer to disposal considerations listed in section 13.

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SECTION 7. HANDLING AND STORAGE

7.1 Precautions for 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.

7.2 Conditions for safe storage, including any incompatibilities

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.

: Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

7.3 Specific end use(s)

Registered Crop Protection products: For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

| Components | Exposure limit(s) | Type of exposure limit | Source |
|------------------|---|------------------------|------------------|
| paclobutrazol | 5 mg/m ³ | 8 h TWA | SYNGENTA |
| propane-1,2-diol | 10 mg/m ³ (Particulates) 150 ppm, 470 mg/m ³ (Total (vapour & particulates)) | 8 h TWA 8 h TWA | UK HSE UK HSE |

The following recommendations for exposure controls/personal protection are intended for the manufacture, formulation and packaging of the product.

8.2 Exposure controls

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.

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** : A gas and vapor filter 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.
- Skin and body protection** : No special protective equipment required.
Select skin and body protection based on the physical job requirements.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---|--|
| Physical state | : liquid |
| Form | : suspension |
| Colour | : off-white to beige |
| Odour | : sweetish |
| Odour Threshold | : no data available |
| pH | : 5 - 9 at 1 % w/v (25 °C) (aqueous suspension) |
| Melting point/range | : no data available |
| Boiling point/boiling range | : no data available |
| Flash point | : > 100 °C at 101.0 kPa Pensky-Martens c.c. |
| Evaporation rate | : no data available |
| Flammability (solid, gas) | : no data available |
| Lower explosion limit | : no data available |
| Upper explosion limit | : no data available |
| Vapour pressure | : no data available |
| Relative vapour density | : no data available |
| Density | : 1.078 g/cm³ at 20 °C |
| Solubility in other solvents | : Miscible in Water |
| Partition coefficient: n-octanol/water | : no data available |
| Auto-ignition temperature | : 475 °C |
| Thermal decomposition | : no data available |
| Viscosity, dynamic | : 33.4 - 84.7 mPa.s at 40 °C 41.1 - 95.5 mPa.s at 20 °C |
| Viscosity, kinematic | : no data available |
| Explosive properties | : Not explosive |
| Oxidizing properties | : not oxidizing |

9.2 Other information

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Surface tension : 34.8 mN/m at 20 °C

SECTION 10. STABILITY AND REACTIVITY**10.1 Reactivity**

No information available.

10.2 Chemical stability

No information available.

10.3 Possibility of hazardous reactions

None known.

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

No information available.

10.5 Incompatible materials

No information available.

10.6 Hazardous decomposition products

Combustion or thermal decomposition will evolve toxic and irritant vapors.

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects**

Acute oral toxicity : LD50 female rat, 2,958 mg/kg

Acute inhalation toxicity : LC50 male and female rat, > 3.99 mg/l , 4 h

Acute dermal toxicity : LD50 male and female rat, > 5,000 mg/kg

Skin corrosion/irritation : rabbit: Non-irritating

Serious eye damage/eye irritation : rabbit: Non-irritating

Respiratory or skin sensitisation : Local Lymph Node Assay mouse: not sensitizing

Germ cell mutagenicity
paclobutrazol : Did not show mutagenic effects in animal experiments.

Carcinogenicity
paclobutrazol : Did not show carcinogenic effects in animal experiments.

Reproductive toxicity
paclobutrazol : Embryo/foetotoxic effects have been reported in rats at doses of maternal toxicity.

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SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

Toxicity to fish : LC50 *Cyprinus carpio* (Carp), > 100 mg/l , 96 h

Toxicity to aquatic invertebrates : EC50 *Daphnia magna* (Water flea), > 100 mg/l , 48 h

Toxicity to aquatic plants
 paclobutrazol : ErC50 *Pseudokirchneriella subcapitata* (green algae), 7.2 mg/l , 96 h
 ErC50 *Lemna gibba* (duckweed), 0.0283 mg/l , 7 d
 NOErC *Lemna gibba* (duckweed), 0.002 mg/l , 7 d

12.2 Persistence and degradability

Biodegradability

paclobutrazol : Not readily biodegradable.

Stability in water

paclobutrazol : Degradation half life: 167 - 1,378 d
 Persistent in water.

Stability in soil

paclobutrazol : Degradation half life: 43 - 634 d
 Persistent in soil.

12.3 Bioaccumulative potential

paclobutrazol : Does not bioaccumulate.

12.4 Mobility in soil

paclobutrazol : Paclobutrazol has medium mobility in soil.

12.5 Results of PBT and vPvB assessment

paclobutrazol : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

12.6 Other adverse effects

| | | |
|--------------------------|---|---|
| Other information | : | Classification of the product is based on the summation of the concentrations of classified components. |
|--------------------------|---|---|

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SECTION 13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods**

- 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.

SECTION 14. TRANSPORT INFORMATION**Land transport (ADR/RID)**

- 14.1 UN number:** UN 3082
14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PACLOBUTRAZOL)
14.3 Transport hazard class(es): 9
14.4 Packing group: III
Labels: 9
14.5 Environmental hazards : Environmentally hazardous

Sea transport(IMDG)

- 14.1 UN number:** UN 3082
14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PACLOBUTRAZOL)
14.3 Transport hazard class(es): 9
14.4 Packing group: III
Labels: 9
14.5 Environmental hazards : Marine pollutant

Air transport (IATA-DGR)

- 14.1 UN number:** UN 3082
14.2 UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (PACLOBUTRAZOL)
14.3 Transport hazard class(es): 9
14.4 Packing group: III
Labels: 9

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14.6 Special precautions for user

none

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

GHS-Labeling

Hazard pictograms



| | | |
|---------------------------------|---|--|
| Signal word | : | Warning |
| Hazard statements | : | H303 May be harmful if swallowed. H332 Harmful if inhaled. H361d Suspected of damaging the unborn child. H410 Very toxic to aquatic life with long lasting effects. |
| Precautionary statements | : | P102 Keep out of reach of children. P201 Obtain special instructions before use. P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P280 Wear protective gloves/ eye protection/ face protection. P308 + P313 IF exposed or concerned: Get medical advice/ attention. P312 Call a POISON CENTER or doctor/ physician if you feel unwell. P391 Collect spillage. P501 Dispose of contents/ container to an approved waste disposal plant. |
| Remarks | : | Classified using all GHS hazard classes and categories. Where the GHS contains options, the most conservative option has been chosen. Regional or national implementations of GHS may not implement all hazard classes and categories. |

Hazardous components which must be listed on the label:

- paclobutrazol

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15.2 Chemical Safety Assessment

A Chemical Safety Assessment is not required for this substance.

SECTION 16. OTHER INFORMATION**Further information**

Full text of R-phrases referred to under sections 2 and 3:

| | |
|--------|--|
| R20/22 | Harmful by inhalation and if swallowed. |
| R36 | Irritating to eyes. |
| R36/38 | Irritating to eyes and skin. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R63 | Possible risk of harm to the unborn child. |

Full text of H-Statements referred to under sections 2 and 3.

| | |
|-------|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H361d | Suspected of damaging the unborn child. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |

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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