

## HERBICIDE

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

Tradename **CALARIS**  
 Design Code **A13726E**  
 AGI Code **34468**

**COMPANY/UNDERTAKING IDENTIFICATION**

Company Syngenta Crop Protection UK Ltd  
 CPC4, Capital Park, Fulbourn, Cambridge CB21 5XE  
 Phone (01223) 883400  
 Fax (01223) 882195  
 Website [www.syngenta-crop.co.uk](http://www.syngenta-crop.co.uk)

**Emergency Phone +44 (0)1484 538444 (24h)**

**2. COMPOSITION/INFORMATION ON INGREDIENTS****HAZARDOUS COMPONENTS**

CAS NO.	EC NO.	CHEMICAL NAME	CONCENTRATION (%W/W)	HAZARD SYMBOLS	RISK PHRASES (R)
104206-82-8	–	mesotrione	6.2	N	50/53
5915-41-3	227-637-9	terbuthylazine	29.3	Xn, N	22, 50/53

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

**3. HAZARDS IDENTIFICATION**

Harmful if swallowed. 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 Centre or physician, or going for treatment.

**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 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

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### 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.

## 6. ACCIDENTAL RELEASE MEASURES

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### 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.

## 7. HANDLING AND STORAGE

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### 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.

### 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.

### OTHER DATA

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

## H E R B I C I D E

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****EXPOSURE CONTROLS**

Components with workplace control parameters

Hazardous ingredients exposure limits, 8 hr TWA, SYNGENTA Source;

Mesotrione: 10 mg/m<sup>3</sup>

Terbuthylazine: 0.8 mg/m<sup>3</sup>

**Personal Protection:** When using this product refer to the label for details. In all other cases, use the following Personal Protective Equipment:

**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 vapours 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 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**

Colour:	White to light brown.
Physical State/ Form:	Liquid.
Flash Point:	>100°C at 1,013 hPa.
Oxidising Properties:	Non-oxidising.
Explosive Properties:	Non-explosive.
Density:	1.10–1.14 g/ml at 20°C.
pH Value:	2–5 at 1% w/v.
Water Solubility:	Miscible.
Dynamic Viscosity:	225–383 mPa.s at 20°C.
Dynamic Viscosity:	109–238 mPa.s at 40°C.

## 10. STABILITY AND REACTIVITY

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

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

## 11. TOXICOLOGICAL INFORMATION

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<b>Acute Oral Toxicity, female rat LD<sub>50</sub>:</b>	ca. 310 mg/kg
<b>Acute Dermal Toxicity, male and female rat LD<sub>50</sub>:</b>	>2000 mg/kg
<b>Skin Irritation:</b>	Rabbit: Non-irritating.
<b>Eye Irritation:</b>	Rabbit: Mild eye irritation.
<b>Sensitisation:</b>	Guinea Pig: Not a skin sensitiser in animal tests.

### LONG-TERM EXPOSURE

Did not show carcinogenic, teratogenic or mutagenic effects in animal experiments.

## 12. ECOLOGICAL INFORMATION

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### ENVIRONMENTAL INFORMATION (PERSISTENCE AND DEGRADATION)

Information applies to Mesotrione: Low potential for bioaccumulation. Persistent in water. Not persistent in soil. Medium to high mobility in soil.

Information applies to Terbutylazine: Does not bioaccumulate. Not persistent in water. Not persistent in soil. Medium mobility in soil.

### ECOTOXICITY

<b>Toxicity to Fish LC<sub>50</sub>:</b>	6.7 mg/l ( <i>Oncorhynchus mykiss</i> , (Rainbow trout), 97 h)
<b>Toxicity to Algae EbC<sub>50</sub>:</b>	23 µg/l ( <i>Pseudokirchneriella subcapitata</i> , (green algae), 72 h)
<b>Toxicity to Algae ErC<sub>50</sub>:</b>	87 µg/l ( <i>Pseudokirchneriella subcapitata</i> , (green algae), 72 h)
<b>Toxicity to Aquatic Invertebrates EC<sub>50</sub>:</b>	53 mg/l ( <i>Daphnia magna</i> , (water flea), 48 h)
<b>Toxicity to Aquatic Plants EC<sub>50</sub>:</b>	0.114 mg/l ( <i>Lemna gibba</i> , 7 d)

## 13. DISPOSAL CONSIDERATIONS

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**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.

**H E R B I C I D E**

**14. TRANSPORT INFORMATION**

<b>RAIL/ROAD (RID/ADR)</b>	Class	UN number	Packaging Group
	9	3082	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERBUTHYLAZINE)		
<b>SEA (IMDG-CODE)</b>	Class	UN number	Packaging Group
	9	3082	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERBUTHYLAZINE)		
Marine pollutant:	Yes		
<b>AIR (ICAO/IATA)</b>	Class	UN number	Packaging Group
	9	3082	III
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (TERBUTHYLAZINE)		

**15. REGULATORY INFORMATION**

<b>Hazard Symbols/ Classifications</b>	<b>N Xn</b>	<b>DANGEROUS FOR THE ENVIRONMENT HARMFUL</b>
<b>Risk phrases (R)</b>	22	Harmful if swallowed.
	50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
<b>Safety phrases (S)</b>	2	Keep out of reach of children.
	13	Keep away from food, drink and animal feeding stuffs.
	20/21	When using do not eat, drink or smoke.
	35	This material and its container must be disposed of in a safe way.
	57	Use appropriate containment to avoid environmental contamination.
<b>Special label</b>	To avoid risks to man and the environment, comply with the instructions for use.	

The preparation is classified as dangerous in accordance with Directive 1999/45/EC.

**16. OTHER INFORMATION**

Always read the label. Use pesticides safely.  
 Based upon SDS issue date 03.01.2005, Version 2. DPD compliant.  
 Product Approval Number: MAPP 12405

**Text of R phrases mentioned in Section 2:**

**R22** Harmful by inhalation.

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

**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.**