

HERBICIDE

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

Tradename **CALLISTO**
 Design Code **A12739A**
 AGI Code **141088**

COMPANY/UNDERTAKING IDENTIFICATION

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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	9	N	50/53
61827-42-7	–	poly(oxy-1,2-ethanediyl), alphaisodecyl-omegahydroxy-	20–30	Xn, N	22, 41, 52/53
111-87-5	203-917-6	octan-1-ol	5–10	Xi	36

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

3. HAZARDS IDENTIFICATION

Irritating to eyes. 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

SUITABLE EXTINGUISHING MEDIA

Extinguishing media – small fires: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media – large fires: Use alcohol-resistant foam or 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.

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.

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 feeding stuffs.

OTHER DATA

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

Components	Exposure limit(s)	Value type	Source
mesotrione	10 mg/m ³	8 h TWA	SYNGENTA

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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

When using this product refer to the label for details. In all other cases, use the following 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.

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 brown
Odour:	Like octanol
pH:	2.2 at (20°C)
Melting Point/range:	<-5°C
Boiling Point/range:	>100°C
Flash Point:	90°C Pensky-Martens c.c.
Autoignition Temperature:	395°C
Oxidising Properties:	Not oxidising
Explosive Properties:	Not explosive
Density:	1.09 g/ml at 20°C
Solubility in Other Solvents:	Miscible in water

10. STABILITY AND REACTIVITY

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.

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11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity Rat LD₅₀: >2000 mg/kg

Acute Dermal Toxicity Rat LD₅₀: >2000 mg/kg

Skin Irritation Rabbit: Not irritant

Eye Irritation Rabbit: Moderately irritating.

Skin Sensitisation - Buehler Test Guinea Pig: Not sensitising.

LONG-TERM TOXICITY:

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

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

Bioaccumulation: Mesotrione has low potential for bioaccumulation

Stability in water: Mesotrione is persistent in water.

Stability in soil: Mesotrione is not persistent in soil.

Mobility: Mesotrione has medium to high mobility in soil.

ECOTOXICITY EFFECTS

Toxicity to Fish LC₅₀: *Cyprinus carpio* (common carp), 71 mg/l , 96 h

Toxicity to Algae EbC₅₀: *Pseudokirchneriella subcapitata* (green algae), 96 mg/l , 72 h

Toxicity to Algae ErC₅₀: *Pseudokirchneriella subcapitata* (green algae), >100 mg/l , 72 h

Toxicity to Aquatic Invertebrates EC₅₀: *Daphnia magna* (water flea), 49 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**RAIL/ROAD/SEA/AIR
(RID/ADR/IMDG/IATA)**

Class	UN number	Packaging Group
9	3082	III

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (MESOTRIONE)

Marine pollutant: Yes

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15. REGULATORY INFORMATION

Hazard Symbols/ Classifications	N Xi	DANGEROUS FOR THE ENVIRONMENT IRRITANT
Risk phrases (R)	36 50/53	Irritating to eyes. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases (S)	2 13 20/21 35 37/39 57	Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. This material and its container must be disposed of in a safe way. Wear suitable gloves and eye/face protection. Use appropriate containment to avoid environmental contamination.
Special label		To avoid risks to man and the environment, comply with the instructions for use.

16. OTHER INFORMATION

Always read the label. Use pesticides safely.

Based upon SDS issue date 30/06/2009, version 12 with local assessments.

Product approval number: MAPP 12323.

Text of R phrases mentioned in Section 2:

R22 Harmful if swallowed.

R36 Irritating to eyes.

R41 Risk of serious damage to eyes.

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.

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.