

# THEORY 960 EC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** THEORY 960 EC  
**Other identifier:** Fluxofenim 960 EC  
**Recommended use:** Safener  
**Restrictions on use:** Agriculture

**Supplier:** Villa Crop Protection (Pty) Ltd.  
PO Box 10413  
Aston Manor, 1630, South Africa  
**Telephone:** (011) 3962233  
**Fax:** (011) 3964666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

### Emergency telephone numbers: 24 Hr Transport / Spill emergency no:

Bateleur: +27 86 199 9071

(Client: Villa Crop Protection)

### Poisoning:

Griffon Poison Information Centre +27 82 446 8946  
Western Cape Poisons +27 861 555 777  
Tygerberg Hospital +27 21 931 6129

## 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Health</b>		
Oral	Acute tox 4	H302
Dermal	Acute tox 4 Irrit. 3	H312 H316
Eye	Irrit. 2/2A	H319
Inhalation	Acute tox 4	H332
<b>Environment</b>		
Aquatic chronic	Aquatic chronic 1	H410

### The most important adverse effects:

#### Physicochemical effects:

None known

#### Human health effects:

Causes serious eye irritation.

#### Label elements:



**Signal word:** Warning.

#### Hazard statements:

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

H316: Causes mild skin irritation.  
H319: Causes serious eye irritation.  
H332: Harmful if inhaled.  
H410: Very toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P264: Wash hands and face thoroughly after handling.  
P270: Do not eat, drink or smoke when using this product.  
P271: Use only outdoors or in a well-ventilated area.  
P273: Avoid release into the environment.  
P280: Wear impervious rubber gloves and chemical safety goggles.  
P305/351/338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337/313: If eye irritation persists: Get medical advice.  
P362/364: Take off contaminated clothing and wash it before reuse.  
P391: Collect spillage.  
P501: Dispose of contents/container in accordance with local regulations.

#### Special labelling of certain mixtures:

None known.

#### Other hazards:

None known.

#### Toxicity:

Classification according to GHS: Category 4

Classification according to WHO: Category II

Classification according to GPIC (Fluxofenim): Category II

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance/Mixture:** Mixture

#### Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Fluxofenim	88485-37-4	96%	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Aquatic chronic 1 (H410)
Calcium Dodecylbenzene Sulfonate	26264-06-2	< 5%	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Acute 4 (H413)
Solvent oil (S-200)	64742-94-5	< 5%	Asp. Tox. 1 (H304)

## 4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of

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any complaints or symptoms, avoid further exposure. If irritation develops consult a doctor.

**Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.

**Skin:** Remove contaminated clothing and wash before re-using. Flush skin with water and then wash with soap and water. Seek medical attention if skin irritation persists.

**Eyes:** Immediately flush eyes with clean water for at least 15 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**

**Ingestion:** Seek medical attention or call a poison control centre for treatment advice if the person feels unwell. Do not give anything by mouth to an unconscious person. Do NOT induce vomiting unless instructed to do so by a poison control centre or doctor.

**Anticipated acute effects:** Causes serious eye irritation.

**Anticipated delayed effects:** None known.

**Most important symptoms/effects:** None known.

**Advice to physician:** Treat symptomatically and supportively. No specific antidote known.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Use carbon dioxide, dry chemical, alcohol-resistant foam or water spray for small fires and alcohol-resistant foam or water spray for large fires.

**Unsuitable Extinguishing Media:** Water jet. Use a water jet only to cool heated containers. Water may be ineffective in controlling fire.

**Specific hazards:** Thick black smoke with irritating or hazardous products is produced by the combustion of organic components in the product.

**Special Fire Fighting Procedures:** Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Keep upwind. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

**Personal protective equipment:** Wear NIOSH/MSHA approved self-contained breathing apparatus and full bunker gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:** Avoid contact with eyes and skin. Do not breathe in spray or fumes. Ventilate area of spill or leak, especially in contained areas.

**Protective equipment:** Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

**Emergency procedures:** Alert firefighting personnel, evacuate unprotected personnel and animals.

**Environmental Precautions:** Prevent spilled product from entering sewers, waterways or ground water. This product is classified to be very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into water courses should be reported immediately to the police and the Department of Water/Environmental Affairs.

**Methods and Materials for Containment:** Contain spilled product by diking area with sand, earth or silica gel.

**Methods and Materials for Clean-up:** Cover contained spill with an inert absorbent material such as sand, earth or other appropriate non-combustible material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. Add the solution to the drums already collected. Open burning or dumping of this material is prohibited. See section 13 for disposal considerations.

## 7. HANDLING AND STORAGE

**Handling: Precautions for safe handling:** Avoid contact with eyes and skin. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4. **General occupational hygiene:** Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

**Storage: Conditions for safe storage:** Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container tightly closed, in an isolated, dry, cool and well-ventilated area. Avoid excessive heat. Avoid cross contamination with other pesticides and fertilisers.

**Incompatible substances and mixtures:** Refer to product label.

**Packaging material:** Plastic containers.

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Permissible concentration:** Not available.

**Engineering Controls:**

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

**Personal Protective Equipment:**

**Respiratory Protection:** For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved air-purifying respirator.

**Hand Protection:** The use of chemically protective impervious gloves is recommended to prevent against skin contact.

**Eye Protection:** Wear a face shield when handling the concentrate and when applying the product. The use of safety goggles is recommended if a face shield is not used. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employee must wear appropriate protective impervious clothing; rubber boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

**Emergency eyewash:** Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Yellow transparent liquid, Emulsifiable concentrate.

**Odour:** Weak odour.

**pH (1% aqueous dilution):** 7.2 @ 20°C.

**Melting point:** Not available.

**Freezing Point:** Not available.

**Boiling Point:** Not available.

**Flash Point:** Not available.

**Flammability:** Not available.

**Upper/lower explosion limits:** Not available.

**Vapour Pressure (mm Hg):** 38.57 mPa at 20°C.

**Relative Vapour Density:** Not available.

**Density:** 1.28 g/cm<sup>3</sup> @ 20 °C.

**Solubility:** Emulsifies in water.

**n-octanol/water partition coefficient:** Not available.  
**Auto-ignition temperature:** Not available.  
**Decomposition temperature:** Not available.  
**Viscosity:** Not available.

## 10. STABILITY AND REACTIVITY

**Chemical Stability:** Product is stable at ambient temperature and pressure, under normal storage and handling conditions.

**Reactivity:** None known.

**Possibility of Hazardous Reactions:** None known.

**Conditions to Avoid:** Extreme heat or exposure to flames.

**Incompatible Materials:** None known.

**Hazardous Decomposition Products:** Irritating or hazardous gases may be generated by thermal decomposition or combustion.

## 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:**

**Calculated according to GHS**

**Oral LD<sub>50</sub> rat > 690 mg/kg**

**Dermal LD<sub>50</sub> rabbit > 1540 mg/kg**

**Inhalation LC<sub>50</sub> (4h) rat > 1.10 mg/l**

**Skin Irritation:** Causes mild skin irritation.

**Eye Damage/Irritation:** Causes serious eye irritation.

**Skin Sensitization:** Not available.

**Respiratory Sensitization:** Not available.

**Reproductive cell mutagenicity:** Not available.

**Carcinogenicity:** Not available.

**Reproductive toxicity:** Not available.

**Specific target organ toxicity – single exposure:** Not available.

**Specific target organ toxicity – repeated exposure:** Not available.

**Aspiration hazard:** Not available.

**Chronic Effects:** Not available.

**POTENTIAL ADVERSE EFFECTS:**

**Inhalation:** No adverse effects expected by this route of exposure if handling properly.

**Skin contact:** Mild skin irritation.

**Eye contact:** Serious eye irritation.

**Ingestion:** Low toxicity if swallowed.

## 12. ECOLOGICAL INFORMATION

**This product is considered a marine pollutant.**

**ECOTOXICITY DATA (Fluxofenim TC):**

**Fish:**

LC <sub>50</sub> (96 h)	Trout	0.86 mg/l
	Bluegill sunfish	2.5 mg/l

**Daphnia:**

LC <sub>50</sub> (48 h)		0.22 mg/l
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**Birds:**

LD <sub>50</sub>	Japanese quail	> 2000 mg/kg
	Mallard ducks	> 2000 mg/kg
LC <sub>50</sub> (8 d)	Japanese quail	> 5620 ppm

**ENVIRONMENTAL EFFECTS:**

Animals – In the rat: Rapidly absorbed and rapidly excreted via urine and faeces, with low tissue residues.

**Persistence and degradability:** Not determined.

**Bio-accumulative Potential:** Not determined.

**Mobility in soil:** Not determined.

**Other adverse effects:** Not determined.

## 13. DISPOSAL CONSIDERATIONS

**Waste:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal.

**Container:** Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to one third of that of the container. Add the rinsing's to the contents of the spray tank before recycling or destroying the container in the prescribed manner. Comply with local legislation applying to waste disposal.

## 14. TRANSPORT INFORMATION

**UN Number: 3082**

**Road Transport ADR/IRD:**

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (**Fluxofenim** 960 g/l)

**Maritime Transport IMDG/IMO:**

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (**Fluxofenim** 960 g/l)

**Marine Pollutant (Y/N):** Yes.

**Air Transport IATA/ICAO:**

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (**Fluxofenim** 960 g/l)

**Special/Environmental Precautions:** Not available.

**Transport in bulk** (according to MARPOL 73/78, Annex II and the IBC code): Not available.

## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations/legislation for the mixture:**

OHSA 1993 Regulations for Hazardous Chemical Substances.

**Relevant information regarding restrictions:** None.

**EU regulation:** Regulation EC1272/2008 (EU-GHS/CLP)

**Other national regulations:** None.

**Chemical Safety Assessment carried out?** No

## 16. OTHER INFORMATION

**Packaging:** Packed in 1, 2, 5, 10, 20, 25 and 50 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

**Additional H-statement (s) (formulants)**

**H304:** May be fatal if swallowed and enters airways.

**H315:** Causes skin irritation.

**H318:** Causes serious eye damage.

**H413:** May cause long lasting harmful effects to aquatic life.

**Disclaimer:** The information on this sheet is not a specification; it does not guarantee specific properties. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product. It is not applicable to unusual or non-standard uses of the product nor where instructions or recommendations are not followed. All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

## END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.