

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name:</b>	<b>MODDUS<sup>®</sup> Yield &amp; Quality Enhancer</b>
<b>Other Names:</b>	<b>Proper shipping name:</b> Environmentally Hazardous Substance, Liquid, N.O.S. (Trinexapac-ethyl) <b>Applicable only for marine and air transport</b>
	<b>Product code:</b> A7725M
<b>Recommended Use:</b>	Increases yield in ryegrass seed crops, improves the percent of thebaine in poppies, and increases the CCS percentage in sugarcane
<b>Company Details:</b>	<b>Syngenta Crop Protection Pty Limited</b> ABN 33 002 933 717
<b>Address:</b>	<b>Level 1, 2-4 Lyonpark Road</b> <b>MACQUARIE PARK NSW 2113</b> <b>AUSTRALIA</b>
<b>Telephone Number:</b>	<b>(02) 8876 8444</b>
<b>Emergency Telephone Number:</b>	<b>24 hours - 1800 033 111</b>

### Section 2: HAZARDS IDENTIFICATION

<b>Hazard Classification:</b>	Classified as a hazardous chemical according to the Australian criteria for the classification of chemicals
<b>Risk Phrases:</b>	R43 May cause sensitisation by skin contact
<b>Safety Phrases:</b>	—

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<b>SUBSTANCE</b>	
<b>Chemical Identity of Pure Substance:</b>	Trinexapac-ethyl
<b>Synonym:</b>	CGA163935
<b>CAS Number:</b>	95266-40-3

<b>MIXTURE</b>		
<b>Chemical Identity of Ingredients</b>	<b>CAS No</b>	<b>Proportion (%w/v)</b>
Trinexapac-ethyl	95266-40-3	25
Other ingredients determined not to be hazardous	-	to 100

## Section 4: FIRST AID MEASURES

<b>Description of Necessary First Aid Measures:</b>	<p>In case of poisoning by any exposure route contact a doctor or Poisons Information Centre on 131 126. Have the product label or SDS with you when calling or going for treatment.</p> <p><b>Ingestion:</b> If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.</p> <p><b>Eye contact:</b> Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.</p> <p><b>Skin contact:</b> 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.</p> <p><b>Inhalation:</b> 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 Information immediately.</p>
<b>Poisoning Symptoms:</b>	Poisoning symptoms in laboratory animals were non-specific
<b>Medical Advice:</b>	There is no specific antidote available. Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

<b>Suitable Extinguishing Media:</b>	<p><i>Small fires</i>          Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Do not use a solid water stream as it may scatter and spread fire.</p> <p><i>Large fires</i>          Alcohol-resistant foam or water spray. Do not use a solid water stream as it may scatter and spread fire.</p>
<b>Hazards from Combustion Products:</b>	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see Section 10). Combustion or thermal decomposition will evolve toxic and irritant vapours. Exposure to decomposition products may be a hazard to health.
<b>Special Protective Precautions and Equipment for Fire Fighters:</b>	<p>Wear full protective clothing and self-contained breathing apparatus.</p> <p>Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray..</p>

**Section 6: ACCIDENTAL RELEASE MEASURES**

<b>Emergency Procedures:</b>	In case of spillage it is important to take all steps necessary to <ul style="list-style-type: none"> <li>• Avoid eye and skin contact</li> <li>• Avoid contamination of waterways</li> </ul>
<b>Methods and Materials for Containment and Clean Up:</b>	<b>Procedure for spill</b> <ol style="list-style-type: none"> <li>(1) Keep all bystanders away</li> <li>(2) Wear full length clothing and PVC gloves</li> <li>(3) Reposition any leaking containers so as to minimise further leakage</li> <li>(4) Dam and absorb spill with an absorbent material (eg sand or soil)</li> <li>(5) Shovel the absorbed spill into drums</li> <li>(6) Disposal of the absorbed material will depend upon the extent of the spill           <ul style="list-style-type: none"> <li>• For quantities up to 50 L of product bury in a secure landfill site</li> <li>• For quantities greater than 50 L seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established</li> </ul> </li> <li>(7) Decontaminate spill area with detergent and water and rinse with the smallest volume of water practicable.</li> </ol>

**Section 7: HANDLING AND STORAGE**

<b>Precautions for Safe Handling:</b>	Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with the eyes and skin. When opening the container and preparing spray, wear: <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist (or equivalent clothing)</li> <li>• elbow-length PVC gloves</li> </ul> Wash hands after use. After each day's use, wash gloves and contaminated clothing.
<b>Conditions for Safe Storage:</b>	Store in closed original container in a cool, well ventilated area as cool as possible. DO NOT store for prolonged periods in direct sunlight.

**Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION**

**ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS**

<b>National Exposure Standards:</b>	No exposure standard allocated		
	<i>Component</i>	<i>Exposure limit</i>	<i>Value type</i>
<b>Syngenta Exposure Standards:</b>	Trinexapac-ethyl	10 mg/m <sup>3</sup>	8h TWA
<b>Biological Limit Values:</b>	No biological limits allocated		
<b>Engineering Controls:</b>	No special requirements. Product is used outdoors.		
<b>Personal Protective Equipment:</b>	Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid contact with the eyes and skin. When opening the container and preparing spray, wear: <ul style="list-style-type: none"> <li>• cotton overalls buttoned to the neck and wrist (or equivalent clothing)</li> <li>• elbow-length PVC gloves</li> </ul> Wash hands after use. After each day's use, wash gloves and contaminated clothing.		

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b> Yellow to red brown liquid <b>Odour:</b> Unpleasant <b>pH:</b> 2 – 6 at 1% w/w <b>Vapour Pressure:</b> Not available <b>Vapour Density:</b> Not available <b>Surface tension:</b> 28.2 - 28.5 mN/m at 20°C	<b>Boiling Point/Range:</b> Not available <b>Freezing/Melting Point:</b> Not available <b>Solubility:</b> Miscible <b>Density:</b> 0.96 – 1.00 g/cm <sup>3</sup> at 20°C <b>Viscosity, dynamic:</b> 10.01 mPa.s at 20 °C 5.45 mPa.s at 40 °C
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<b>Flash Point:</b> 79°C at 1,013 hPa (DIN 51758) <b>Upper and Lower Flammable (Explosive) Limits in Air:</b> Not available <b>Auto Ignition Temperature:</b> 250°C	<b>Explosive Properties:</b> Not explosive <b>Oxidising Properties:</b> Not oxidising <b>Combustibility:</b> Combustible <b>Corrosiveness:</b> Not corrosive to stainless steel, tin plate or iron steel
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## Section 10: STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	None known.
<b>Incompatible Materials:</b>	No known incompatibilities
<b>Hazardous Decomposition Products:</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours.
<b>Hazardous Reactions:</b>	None known. Hazardous polymerization does not occur.

## Section 11: TOXICOLOGICAL INFORMATION

<b>Health Effects from Likely Routes of Exposure:</b>		
<b>Acute:</b>	<b>Oral toxicity:</b>  <b>Dermal toxicity:</b>  <b>Inhalation:</b>  <b>Skin irritation:</b> <b>Eye irritation:</b> <b>Sensitisation:</b>	<b>LOW TOXICITY</b> Tests on rats indicate this product has a low toxicity following single doses of undiluted product. (LD <sub>50</sub> > 5,000 mg/kg)  <b>LOW TOXICITY</b> Tests on rats indicate this product has a low toxicity following skin contact with undiluted product. (LD <sub>50</sub> > 4,000 mg/kg)  <b>LOW TOXICITY</b> Tests on rats indicate this product is not harmful due to inhalation of undiluted product. LC <sub>50</sub> (4h) >5.3 mg/L air)  <b>NON IRRITANT</b> <b>NON IRRITANT</b> <b>SENSITISER</b>

**Chronic:** **Trinexapac-ethyl technical** has been extensively tested on laboratory mammals and in test-tube systems. No evidence was obtained of mutagenic, carcinogenic, teratogenic neurotoxic or reproductive effects..

## Section 12: ECOLOGICAL INFORMATION

<b>Ecotoxicity:</b>	<p><i>Toxicity to fish:</i> <b>Slightly toxic to fish</b>  <i>Oncorhynchus mykiss</i> (rainbow trout):  <math>LC_{50} = 24 \text{ mg/L}</math></p> <p><i>Toxicity to daphnia and other aquatic invertebrates:</i> <b>Moderately toxic to aquatic invertebrates</b>  <i>Daphnia magna</i> (Water flea):  <math>EC_{50} = 2.9 \text{ mg/L}, 48 \text{ h}</math>          (Based on tests conducted with active ingredient)</p> <p><i>Toxicity to algae:</i> <b>Moderately toxic to algae</b>  <i>Anabaena flos-aquae</i> (bluegreen algae):  <math>E_rC_{50} = 8.3 \text{ mg/L}, 72 \text{ h}; E_bC_{50} = 5.6 \text{ mg/L}, 72 \text{ h}</math></p> <p><i>Toxicity to aquatic plants:</i> <b>Slightly toxic to duckweed</b>  <i>Lemna gibba</i> (duckweed):  <math>E_rC_{50} = 55 \text{ mg/L}, 7 \text{ d}; E_bC_{50} = 25 \text{ mg/L}, 7 \text{ d}</math></p>
<b>Persistence and Degradability:</b>	Trinexapac-ethyl is not persistent in soil or water
<b>Mobility</b>	Trinexapac-ethyl has medium mobility in soil.
<b>Bioaccumulative Potential:</b>	Trinexapac-ethyl does not bioaccumulate.

## Section 13: DISPOSAL CONSIDERATIONS

<b>Disposal Methods and Containers:</b>	<p><b>Non-returnable containers:</b>          Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.</p> <p><b>Returnable containers:</b>          Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.</p>
<b>Special Precautions for Landfill or Incineration:</b>	Not applicable

## Section 14: TRANSPORT INFORMATION

<b>LAND TRANSPORT ADG</b>	Not a dangerous good in Australia		
<b>UN Number:</b>	None allocated	<b>Packing Group:</b>	None allocated
<b>UN Proper Shipping Name:</b>	None allocated	<b>Special Precautions for User:</b>	None allocated
<b>Class:</b>	None allocated	<b>Hazchem Code:</b>	None allocated
<b>Subsidiary Risk:</b>	None allocated		

<b>SEA TRANSPORT</b>			
IMDG			
<b>UN Number:</b>	3082	<b>Subsidiary Risk:</b>	None allocated
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Trinexapac-ethyl)	<b>Packing Group:</b>	III
<b>Class:</b>	9	<b>Marine Pollutant:</b>	Marine pollutant

<b>AIR TRANSPORT</b>			
IATA - DGR			
<b>UN Number:</b>	3082	<b>Subsidiary Risk:</b>	None allocated
<b>UN Proper Shipping Name:</b>	Environmentally Hazardous Substance, Liquid, N.O.S. (Trinexapac-ethyl)	<b>Packing Group:</b>	III
<b>Class:</b>	9		

**Section 15: REGULATORY INFORMATION**

<b>APVMA Product Number:</b>	60214
<b>Poisons Schedule (SUSDP):</b>	5

**Section 16: OTHER INFORMATION**

<b>Date of preparation or last revision:</b> May 2010
<b>Source of Data:</b> The information provided in this SDS is sourced from Syngenta internal studies which have been conducted according to Regulatory requirements including OECD and CIPAC Guidelines and EC Directives. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.
<b>Note:</b> This product is a registered agricultural chemical and must, therefore, be used in accordance with the container label directions
<b>CONTACT POINT:</b> Regulatory Affairs Manager, Syngenta Crop Protection Pty Limited (02) 8876 8444 <b>24 HOURS EMERGENCY CONTACT: 1800 033 111</b>
This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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