

## SAFETY DATA SHEET

### Section 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

<b>Product Name:</b>	<b>MINECTO STAR</b>
<b>Design Code:</b>	A16890B
<b>Recommended Use:</b>	For the control of insect pests in forage brassica
<b>Company Details:</b>	<b>Syngenta Crop Protection Limited</b>
<b>Address:</b>	<b>Tower II, Level 7, 110 Symonds Street Private Bag 92618, Symonds Street AUCKLAND NEW ZEALAND</b>
<b>Telephone number:</b>	<b>(weekdays) 09 - 306 1500</b>
<b>Emergency Telephone number:</b>	<b>(24 Hours) 0800 734 607</b>
<b>National Poisons &amp; Hazchem Information Centre :</b>	<b>0800 POISON (0800 764 766)</b>
<b>Date of Preparation:</b>	<b>9 October 2017</b>

### Section 2: HAZARDS IDENTIFICATION

<b>Hazard classification:</b>	6.9B, 9.1A, 9.4B
<b>Priority Identifier:</b>	WARNING KEEP OUT OF REACH OF CHILDREN
<b>Secondary Identifiers:</b>	6.9B May cause organ damage from repeated oral exposure at high doses 9.1A Very toxic to aquatic organisms. 9.4B Toxic to terrestrial invertebrates.

### Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<i>Mixture:</i>		
<b>Chemical Identity of ingredients:</b>		
<b>Ingredient</b>	<b>CAS no.</b>	<b>Content (% w/w)</b>
<b>Pymetrozine</b>	123312-89-0	50% w/w
<b>Cyantraniliprole</b>	736994-63-1	10% w/w
Sodium dibutyl-naphthalenesulphonate	25417-20-3	1-5% w/w
Silica	61790-53-2	1-5% w/w
other ingredients determined not to be hazardous	-	to 100%

## Section 4: FIRST AID MEASURES

<b>Necessary First Aid measures:</b>	<p>For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.</p> <p>Swallowed: If swallowed seek medical advice immediately and show this container or label. <b>DO NOT</b> induce vomiting. Rinse mouth.</p> <p>Eye: If concentrate or spray solution enters the eyes rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call the National Poisons Centre 0800 POISON (0800 764 766)</p> <p>Skin: If skin contact occurs remove contaminated clothing and flush skin and hair with running water. <b>DO NOT</b> scrub the skin. If skin irritation persists call a doctor. Wash contaminated clothing before re-use.</p> <p>Inhaled: If inhaled move the victim to fresh air immediately. If breathing is irregular or stopped, administer artificial respiration. Keep patient warm and at rest. Call the National Poisons Centre 0800 POISON (0800 764 766)</p>
<b>Poisoning symptoms:</b>	No case of human poisoning due to this product is on record.
<b>Workplace facilities:</b>	No specific facilities required. Standard emergency equipment must be available.
<b>Hygiene Practices:</b>	<p>Avoid contact with skin and eyes and inhalation of dust or spray mist. When mixing, applying or handling, wear gloves, waterproof hat, coat and trousers (worn outside rubber boots). If clothing becomes contaminated with product, remove clothing immediately. <b>DO NOT</b> eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work and before reuse.</p>
<b>Notes for Medical Personnel:</b>	No specific antidote is available. If poisoning is suspected apply symptomatic therapy.

## Section 5: FIRE-FIGHTING MEASURES

<b>Type of Hazard:</b>	May form flammable dust-air mixture.
<b>Fire Hazard Properties:</b>	<p>As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health.</p>
<b>Regulatory Requirements:</b>	Not applicable

<b>Extinguishing Media and methods:</b>	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.
<b>Recommended Protective Clothing and advice for fire-fighters:</b>	When fighting a major fire 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

<b>Personal Precautions:</b>	<b>Emergency Procedures:</b> Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls. Avoid dust formation.
<b>Environmental Precautions:</b>	Do not flush into surface water or sanitary sewer systems.
<b>Procedure for spill:</b>	<ol style="list-style-type: none"><li>(1) Keep all bystanders away.</li><li>(2) Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves.</li><li>(3) Reposition any leaking containers so as to minimise further leakage.</li><li>(4) Pick up spillage with an electrically protected vacuum cleaner or by wet-brushing.</li><li>(5) Transfer spill into drums or suitable container for disposal.</li><li>(6) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.</li></ol>
<b>Procedure for Disposal:</b>	Disposal of the spilled material will depend upon the extent of the spill. Contaminated material must be disposed of in accordance with all local authority requirements. It is suggested: <ul style="list-style-type: none"><li>• For quantities up to 50 kg of product bury in a secure approved landfill site.</li><li>• For quantities greater than 50 kg 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>

## Section 7: HANDLING AND STORAGE

<b>Precautions for safe handling:</b>	<b>Handling:</b> This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents. This material can become readily charged in most operations. Avoid contact with skin and eyes. When using do not eat, drink or smoke.
<b>Regulatory Requirements:</b>	This product must be under the control of an approved handler when applied in a wide dispersive manner or by a commercial contractor.

**Handling practices:** Avoid contact with skin and eyes and inhalation of dust or spray mist. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.

**Approved Handlers:** This product must be under the control of an Approved Handler.

**Storage:**

**Conditions for Safe Storage:** Keep out of reach of children. Keep in original containers and tightly closed. Keep away from food, drink and animal feeding stuffs. Store in a cool, dry, well ventilated place and protect from sunlight.

**Store Site Requirements:** Stores containing quantities of 100 kg or more require signage and secondary containment.

**Packaging:** Store in original container, tightly closed, away from foodstuffs.

## Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

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

<i>Workplace Exposure Guidelines:</i>																									
<b>Application in the workplace:</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Components</th> <th style="width: 25%;">Exposure limit(s)</th> <th style="width: 25%;">Type of exposure limit</th> <th style="width: 25%;">Source</th> </tr> </thead> <tbody> <tr> <td>Pymetrozine</td> <td>0.8 mg/m<sup>3</sup></td> <td>8 h TWA</td> <td>Syngenta</td> </tr> <tr> <td rowspan="5">Silica</td> <td>4 mg/m<sup>3</sup></td> <td>8 h TWA</td> <td>DFG</td> </tr> <tr> <td>4 mg/m<sup>3</sup></td> <td>8 h TWA</td> <td>SUVA</td> </tr> <tr> <td>10 mg/m<sup>3</sup></td> <td>8 h TWA</td> <td>ACGIH</td> </tr> <tr> <td>3,000 ppm</td> <td>IDLH</td> <td>NIOSH</td> </tr> <tr> <td>1.2 mg/m<sup>3</sup> (respirable dust)</td> <td>8 h TWA</td> <td>UK HSE</td> </tr> </tbody> </table>	Components	Exposure limit(s)	Type of exposure limit	Source	Pymetrozine	0.8 mg/m <sup>3</sup>	8 h TWA	Syngenta	Silica	4 mg/m <sup>3</sup>	8 h TWA	DFG	4 mg/m <sup>3</sup>	8 h TWA	SUVA	10 mg/m <sup>3</sup>	8 h TWA	ACGIH	3,000 ppm	IDLH	NIOSH	1.2 mg/m <sup>3</sup> (respirable dust)	8 h TWA	UK HSE
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<b>Exposure standards outside the workplace:</b>	Not required																								
<b>Engineering controls:</b>	<p>Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these production measures depends on the actual risks in use.</p> <p>If airborne dust is generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.</p> <p>Where necessary, seek additional occupational hygiene advice. Follow precaution statements on the label and the use and safety directions in Code of Practice for the Management of Agrichemical NZS8409.</p>																								
<b>Personal Protection:</b>	Use only protective equipment bearing the mark of the Standards Association with Australia/New Zealand.																								
<b>Protective measures:</b>	<p>The use of technical measures should always have priority over the use of personal protective equipment.</p> <p>When selecting personal protective equipment, seek appropriate professional advice.</p> <p>Personal protective equipment should be certified to appropriate standards (see Personal Protection above).</p>																								
<b>Respiratory protection:</b>	No personal respiratory protective equipment normally required. A particulate filter respirator may be necessary until effective technical measures are installed.																								
<b>Hand protection:</b>	Chemical resistant gloves are not usually required. Select gloves based on the physical job requirements.																								

<b>Eye protection:</b>	Eye protection is not usually required. If eye contact is possible, use tight fitting chemical safety goggles and a face shield. Follow any site specific eye protection policies.
<b>Skin and Body protection:</b>	No special protective equipment required. Select skin and body protection based on the physical job requirements.
<b>General Hygiene:</b>	Change work clothes daily. May irritate the eyes. Avoid contact with eyes. Do not inhale dust. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Solid free-flowing granules
<b>Colour:</b>	Beige to brown
<b>Odour:</b>	Loamy
<b>pH value</b>	7 - 11 at 1% w/v
<b>Flashpoint:</b>	No data available
<b>Flammability (solid, gas):</b>	Not highly flammable
<b>Melting point:</b>	No data available
<b>Boiling point/boiling range:</b>	No data available
<b>Density:</b>	0.540 g/mL
<b>Auto-ignition temperature:</b>	> 400°C
<b>Minimum ignition temperature:</b>	500°C
<b>Thermal decomposition:</b>	No data available
<b>Viscosity, dynamic:</b>	No data available
<b>Viscosity, kinematic:</b>	No data available
<b>Oxidising properties:</b>	Not oxidising
<b>Explosive properties:</b>	Not explosive
<b>Dust explosion class:</b>	Forms flammable dust clouds
<b>Minimum ignition energy:</b>	0.3 – 1J
<b>Burning number:</b>	3 at 20°C 5 at 100°C

## Section 10: STABILITY AND REACTIVITY

<b>Stability of the Substance:</b>	This product is stable when used in normal conditions.
<b>Conditions to Avoid:</b>	No information available.
<b>Materials to Avoid:</b>	No substances are known which lead to the formation of hazardous substances or thermal reactions.
<b>Hazardous decomposition products</b>	Combustion or thermal decomposition will evolve toxic and irritant vapours.
<b>Hazardous polymerisation</b>	Does not occur.
<b>Specific Data</b>	Not applicable

## Section 11: TOXICOLOGICAL INFORMATION

<b>HSNO Classifications:</b>	
6.9B	May cause organ damage from repeated oral exposure at high doses.

<b>Acute Effects (Undiluted product)</b>	
Swallowed:	LD <sub>50</sub> > 5000 mg/kg (female rat)
Dermal toxicity:	LD <sub>50</sub> > 5000 mg/kg (rat)
Inhaled:	LC <sub>50</sub> (4 h) > 5.03 mg/L (rat)
<b>Irritation</b>	
Eye:	Minimally irritating (rabbit)
Skin:	Non-irritating (rabbit)
<b>Sensitization</b>	Not a skin sensitiser (guinea pigs)

<b>Chronic / Long Term Effects (Active ingredients)</b>	
<b>Germ cell mutagenicity</b>	
<b>Pymetrozine:</b>	Animal testing did not show any mutagenic effects.
<b>Cyantraniliprole:</b>	Animal testing did not show any mutagenic effects.
<b>Carcinogenicity</b>	
<b>Pymetrozine:</b>	Increased levels of liver tumours were observed at high doses in rats and mice. The relevance of these findings to humans is questionable.
<b>Cyantraniliprole:</b>	Did not show carcinogenic effect in animal experiments.
<b>Reproductive toxicity</b>	
<b>Pymetrozine:</b>	Did not show reproductive toxicity effects in animal experiments.
<b>Cyantraniliprole:</b>	Did not show reproductive toxicity effects in animal experiments.
<b>STOT – single exposure:</b>	The substance or mixture is not classified as specific target organ toxicant, single exposure.
<b>STOT – repeated exposure:</b>	May cause organ damage from repeated oral exposure at high doses

## Section 12: ENVIRONMENTAL INFORMATION

<b>HSNO Classifications:</b>	
9.1A	Very toxic to aquatic organisms.
9.4B	Toxic to terrestrial invertebrates.
<b>Environmental Risk and Safety Phrases:</b>	Avoid contamination of any water supply with chemical or empty container

<b>Ecotoxicity Effects</b>	
<b>Acute toxicity to fish:</b>	LC <sub>50</sub> (96 h) = > 100 mg/L ( <i>Cyprinus carpio</i> (Carp))
<b>Toxicity to aquatic invertebrates:</b>	LC <sub>50</sub> (48h) = 0.18 mg/L ( <i>Daphnia magna</i> (water flea))
<b>Toxicity to aquatic plants:</b>	E <sub>r</sub> LC <sub>50</sub> (96 h) = > 100 mg/L ( <i>Pseudokirchneriella subcapitata</i> (green algae))
<b>Toxicity to birds:</b>	LD <sub>50</sub> (8 d) = > 2000 mg/kg (quail)
<b>Toxicity to soil dwelling organisms:</b>	Pymetrozine: LC <sub>50</sub> (14 days) = 1098 mg/kg soil (earthworms) Cyantraniliprole: LC <sub>50</sub> (14 days) = > 1000 mg/kg soil (earthworms)
<b>Toxicity to bees:</b>	LD <sub>50</sub> (48 h, oral) = 3.8 µg/bee LD <sub>50</sub> (48 h, contact) = 4.89 µg/bee

**Environmental Fate**

**Persistence and degradability:**

<u>Biodegradability</u>	
Pymetrozine:	Not readily biodegradable
Cyantraniliprole:	Not readily biodegradable
<u>Stability in water</u>	
Pymetrozine:	Degradation half-life: 4.8 – 6.3 d. Not persistent in water.
Cyantraniliprole:	Degradation half-life: 1.7 – 42.9 d. Not persistent in water.
<u>Stability in soil:</u>	
Pymetrozine:	Degradation half-life: 14 d (mean of field studies). Not persistent in soil.
Cyantraniliprole:	Degradation half-life: 18.9 d (mean of field studies). Not persistent in soil.

**Bioaccumulative potential**

Pymetrozine:	Low potential for bioaccumulation.
Cyantraniliprole:	Low potential for bioaccumulation.

**Mobility in Soil**

Pymetrozine:	Not mobile in soil.
Cyantraniliprole:	Medium to high mobility in soil.

**Results of PBT and vPvB assessment**

Pymetrozine:	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).
Cyantraniliprole:	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).

**Section 13: DISPOSAL CONSIDERATIONS**

<b>Product Disposal:</b>	Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
<b>Container Disposal:</b>	Ensure the container is empty. Triple rinse empty container and add rinsate to the spray tank. Recycle empty container through Agrecovery (0800 247 326, www.agrecovery.co.nz). Otherwise crush and bury in a suitable landfill. DO NOT reuse this container for any other purpose.

**Section 14: TRANSPORT INFORMATION**

<b>Rail / Road (RID/ADR)</b>	UN-No: 3077
	Class: 9
	Packaging Group: III
	Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CYANTRANILIPROLE)

<b>Sea (IMDG-Code)</b>	UN-No:	3077
	Class:	9
	Packaging Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CYANTRANILIPROLE)
	MARINE POLLUTANT:	Yes
<b>Air (ICAO/IATA)</b>	UN-No:	3077
	Class:	9
	Packaging Group:	III
	Proper shipping name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (CYANTRANILIPROLE)

**Section 15: REGULATORY INFORMATION**

<b>HSNO Approval Number:</b>	HSR101205
<b>HSNO Controls (inc. Tracking and Record Keeping):</b>	See <a href="http://www.epa.govt.nz/search-databases/Pages/controls-search.aspx">http://www.epa.govt.nz/search-databases/Pages/controls-search.aspx</a> for controls.
<b>ACVM Registration:</b>	P9417
<b>ACVM Controls:</b>	See <a href="http://www.foodsafety.govt.nz/industry/acvm">www.foodsafety.govt.nz/industry/acvm</a> for registration conditions.

**Section 16: OTHER INFORMATION**

**Note:** This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. 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.

**CONTACT POINT:** Business Manager - Crop Protection: (09) 306 1503  
**24 HOURS EMERGENCY CONTACT: 0800 734 607**

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 MSDS 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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**DISCLAIMER**  
 This product complies with the specifications in its statutory registration. Implied terms and warranties are excluded. Syngenta's liability for breach of the express or any non-excludable implied warranty is limited to product replacement or purchase price refund. The purchaser must determine suitability for intended purpose and take all proper precautions in the handling, storage and use of the product including those on the label and/or safety data sheet failing which Syngenta shall have no liability.