Cleary MATERIAL SAFETY DATA SHEET

Please read the entire document. This Material Safety Data Sheet contains important environmental, health and toxicology information for your employees, and anyone who will use, transport, store, dispose of or handle this product. Please make sure this information is given to them. It also contains information to help you meet community right-to-know/emergency response reporting requirements under SARA Title III and many other laws. If you resell this product, this MSDS must be given to the buyer or the information contained herein must be incorporated in your MSDS.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: TRISTAR™ 8.5 SL INSECTICIDE
EPA REGISTRATION NUMBER(S): 8033-106-1001

COMPANY
Cleary Chemicals LLC
178 Ridge Road, Suite A
Dayton, NJ 08810

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY:	SPILL EMERGENCY:
1-800-228-5635 ext. 174	**1-800-424-9300**
PROSAR	**CHEMTREC**

SECTION 2: CONFIRMATION/INFORMATION ON INGREDIENTS

Component	% (wt)	Exposure Limits		
		OSHA PEL	ACGIH TLV	Specified Other Limit
Active Ingredient (E)-N^1-[(6-chloro-3-pyridyl)methyl]-N^2-cyano-N^1-methylacetamide (CAS No. 135410-20-7) ISO Name: ACETAMIPRID	8.64	Not listed	Not listed	None
Solvent Propylene carbonate (CAS No. 108-32-7)	Ca. 32	Not listed	Not listed	None
Dipropylene glycol (CAS No. 108-32-7)	Ca. 58	Not listed	Not listed	None
Others Water-soluble polymer, dye and water	Ca. 1.4	Not listed	Not listed	None

SECTION 3: HAZARDS IDENTIFICATION

Route of Entry	**Skin: yes**	**Inhalation: yes**	**Ingestion: yes**
Emergency Overview	Red liquid with odor like combustible liquid. This product is estimated to be low acute toxicity and low eco-toxicity from the properties of ingredients. But it may irritate eye.		
Potential Health Effects			
Eye	May irritate eye.		
Skin	Be estimated to be negative		

Inhalation	Be estimated to be low toxicity
Ingestion	Be estimated to be low toxicity
Signs and Symptoms	No information is available
Chronic	No information is available
Target Organs	No information is available
Other Comments	No information is available

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

Skin: Remove contaminated clothing and shoes. Wash with soap and water. Call a poison control center or doctor for treatment advice.

Inhalation: Remove to fresh air. If not breathing, call 9-1-1 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for treatment advice. Have the container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-441-3637 for emergency medical treatment information.

Ingestion: Induce vomiting with giving a cup of water or milk. Call a poison control center or doctor for treatment advice. Do not give anything by mouth to an unconscious person.

Note to Physicians: none

SECTION 5: FIRE FIGHTING MEASURES

Flammable Properties	This product has weak flammable properties
Unusual Fire and Explosion Hazards	As the solvents in this product has a low vapor pressure, the potential of fire or explosion is low. But, like all combustible organic chemical, this product (when heated and vaporized or atomized in the presence of an ignition source) may cause explosion.
Extinguishing Media	Dry chemical, Alcohol foam, carbon dioxide (CO_2)
Fire Fighting Instruction	Firefighters should ware NIOSH/MSHA approved self-contained breathing apparatus and full protective clothing. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind if possible. Keep out of low area. Persons who may have been exposed to contaminated smoke should be immediately examined by a physician and checked for symptoms of poisoning. The symptoms should not be mistaken for heat exhaustion or smoke inhalation.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Safeguards
NOTE: Review FIRE FIGHTING Measures and Handling (PERSONAL) section before proceeding with cleanup.
Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean up.
Evacuate personnel. Wear self-contained breathing apparatus (SCBA) and full protective gear if necessary.
Emergency response – Chemical resistant overalls, waterproof gloves, waterproof boots and face/eye protection.

Evacuation Procedures and Safety: Personnel handling the material should be thoroughly trained to handle spills and releases. Wear appropriate gear for the situation.

Initial Containment
Prevent material from entering sewers, waterways, or low area. Dike spill with earth or sand.
Follow applicable Federal, State/Provincial and Local regulations.
Containment of spill: Stop leak if it can be done without risk.
Follow procedure under Clean up and Disposal of spill.
Spill clean up
Shovel, vacuum or scoop up to a metal drum for disposal
All flushing and clean-up residuals should be collected for proper disposal to prevent soil and surface, ground and sewer water contamination. Do not allow to contaminate ground or surface water system.
Clean-up and disposal of spill: Sweep up and place in an appropriate closed container.
No sparking tools should be used
Clean up residual material by washing area with water and detergent.
Collect washing for disposal. Decontaminate tools and equipment following clean up.
Environmental and Regulatory Reporting:
Do not flush and drain.
If spilled on the ground the affected area should be scraped clean and placed in an appropriate container for disposal.
Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

SECTION 7: HANDLING AND STORAGE

Handling	(Personnel) Avoid contact with eyes, skin, or clothing. Avoid breathing mist or vapor. Wash thoroughly after handling. Keep out of reach of children and animals. Personnel handling this product should be thoroughly trained as to its hazards. Use nonsparking tools and grounded/bonded equipment and containers when transferring. Use handling, storage and disposal procedure that will prevent contamination of water, food or feed. Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material. Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash the out of groves before removing.
Storage	Store product in original container only. Never transfer this product to another container for storage. Do not contaminate water, other pesticides, fertilizers, food or feed in storage. Store in a cool dry place. Keep away from heat, sparks and flames. Do not store in or around home. Store unused product in a cool, ventilated, dry cocked area.

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Specific Engineering Controls	When handlers use closed systems, enclosed cabs or aircraft in a manner that meets the requirements listed in the worker Protection Standard (WPS) for agricultural pesticides [(40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS. Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust

	ventilation.

Personal Protection Equipment			
Respiratory	NIOSH/MSHA-approved respirator for organic compounds	Gloves	Impervious grove
Eye/Face	Safety goggles with side shields or splash proof goggles	Footwear	Working shoes
Clothing	Working cloths with long sleeves	Others	none

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Red liquid	Odor	Not available
Density	not available	Bulk Density	Not applicable
Melting Point	Not applicable	Boiling Point	Not applicable
Vapor Density (air=1)	propylene carbonate 3.54 dipropylene glycol 4.63	Vapor Pressure	propylene carbonate 4 Pa(20°C) dipropylene glycol 4 Pa(25°C)
Evaporation Rate (Ethyl acetate=1)	Not available		
Solubility in water	Acetamiprid: 4.25mg/mL Solvents: very easily soluble	Solubility in solvent	Acetamiprid: easily soluble (acetone, DMSO)
Log Po/w	Acetamiprid: 0.79	propylene carbonate: -0.41 dipropylene glycol: -1.486	
Flash Point	propylene carbonate 135°C(c.c) dipropylene glycol 138°C(o.c)	Autoignition Temp.	propylene carbonate 455°C dipropylene glycol 310°C
Explosive Limit	LEL propylene carbonate 1.8 vol.% dipropylene glycol 2.2 vol.%	UEL propylene carbonate 14.3 vol.% dipropylene glycol 2.6 vol.%	

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability	Stable	x	If unstable, condition to avoid unstable reaction
	Unstable		
Hazardous Polymerization	Will not occur	x	If polymerization may occur, condition to avoid it
	May occur		
Reactivity	Stable in normal handling and storing conditions. The dangerous reaction of this product is not known.		
Incompatible materials	Oxidizing agent.		
Hazardous Decomposition Product	May evolve toxic and irritant gas such NOx, CO, HCN, HCL or various organic compounds on combustion or by being heated.		
Others	none		

SECTION 11: TOXICOLOGICAL INFORMATION

Effect of Acute Exposure

Acute Toxicity:

The data for this product is not available. The ones for ingredients and the chemical having similar composition are as follows.

The chemical having similar composition 2000mg/kg	Oral	LD_{50}(rat)	500-
	Dermal	LD_{50}(rat)	
>2000mg/kg			

	Inhalation	LC_{50}(rat)	>4.81mg/L(4hr)
Acetamiprid	Oral	LD_{50}(rat)	217mg/kg(female), 146mg/kg(male)
	Dermal	LD_{50}(rat)	>2000mg/kg
	Inhalation	LC_{50}(rat)	>1.15mg/L(4hr)
Propylene carbonate	Oral	LD_{50}(rat)	>5000mg/kg
	Dermal	LD_{50}(rabbit)	>3000mg/kg
Dipropylene glycol	Oral	LD_{50}(rat)	>13g/kg
	Dermal	LD_{50}(rat)	>5g/kg
	Inhalation	LC_{50}(rat)	>6mg/L

Effect of Chronic Exposure
- Sub-Acute Toxicity
  - Acetamiprid
    - 90days repeated dose toxicity test NOEL(rat): 12.4mg/kg/day(male), 14.6mg/kg/day(female)
- Chronic toxicity
  - Acetamiprid
    - Carcinogenicity:negative(rat, mouse)

Irritancy

Irritant to Eye(rabbit)	The chemical having similar composition:	negative
	Acetamiprid	negative
	Dipropylene glycol	mild
Irritant to Skin(rabbit)	The chemical having similar composition:	negative
	Acetamiprid	negative
	Dipropylene glycol	mild

Sensitization

Skin (guinea pig):	The chemical having similar composition:	negative
	Acetamiprid	negative
	Dipropylene glycol	negative

Mutagenicity	Ames test Acetamiprid: negative Propylene carbonate: negative Dipropylene glycol: negative	Chromosomal aberration test(in vitro) Acetamiprid: positive Dipropylene glycol: negative
	UDS test Acetamiprid: negative	Micronucleus test(mouse) Acetamiprid: negative Propylene carbonate: negative Dipropylene glycol: negative

Carcinogenicity	NTP: no	IARC Monograph: no	ACGIH Regulated: no

Others
none

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate
- Degradability
  - Acetamiprid: Not readily biodegradable. But Degradable in soil.
  - Propylene carbonate: Readily biodegradable.
  - Dipropylene glycol: Readily biodegradable.

Bio-Accumulative Potential
Dipropylene glycol: BCF(Cyprinus carpio): <4.6 (42 days)
Acetamiprid and propylene carbonate is estimated as low bio-accumulation from the data of Log Po/w

Ecological Toxicity
Acute Toxicity to Aquatic Organisms
Acute Toxicity to Fish
The chemical having similar composition LC_{50} (rainbow trout):>100mg/L(96hr)
Acetamiprid: LC_{50} (rainbow trout): 119.3mg/L(96hr)
Propylene carbonate (rainbow trout): 480mg/L(96hr)
Dipropylene glycol(Carassius auratus):>5000mg/L(24hr)
Acute Toxicity to Daphnia
The chemical having similar composition: EC_{50}(daphnia magna) >100mg/L(48hr)
Acetamiprid: EC_{50} (daphnia magna): 49.8mg/L(48hr)
Propylene carbonate (daphnia magna): 903 mg/L(48hr)
Acute Toxicity to Algae
The chemical having similar composition: EC_{50}(green algae) >100mg/L(72hr)
Acetamiprid: EC_{50} (green algae): >98.3mg/L(72hr)

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal
Don't contaminate water supply, food or feed by storage or disposal.
Don't dispose of by open dumping.
Don't flush to surface water or sanitary sewer system.
Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.
Burn the material dissolve in a combustible solvent or directly in a chemical incinerator with afterburner and an alkaline scrubber, in accordance with Federal, State, or local regulations.
Chemical additions, processing or otherwise altering his material may make the waste management information presentd in the MSDS incomplete, inaccurate or otherwise difficult to from Federal, State law and regulations.
Consult State and local regulations regarding the proper disposal of the material.

Container Disposal
Triple rinse(or equivalent). Then offer fro recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedure approved by State and local authority.
If burned, stay out of smoke.

SECTION 14: TRANSPORT INFORMATION

International marine transportation(IMDG)
Not classified this product as dangerous goods in IMDG.

Marine pollutant Not applicable

DOT Regulations
Not classified this product as dangerous goods in DOT regulations.

North American Emergency Response Guidebook No. Not applicable

IATA Dangerous Goods Reglations
Not classified this product as dangerous goods in IATA DGR.

SECTION 15: REGULATORY INFORMATION

TSCA	Acetamiprid : not applicable(pesticide) Other ingredients are not listed
OSHA (highly hazardous chemicals)	All ingredients are not listed
SARA (extremely hazardous substance)	All ingredients are not listed
CERCLA (Hazardous Substance)	All ingredients are not listed
Others	None

SECTION 16: OTHER INFORMATION

Regulatory information for Other Country and area			
ENCS(Japan):	All ingredients are listed.		
DSL(Canada):	Acetamiprid: not applicable(pesticide) Other ingredients are listed		
EINECS(EU):	Acetamiprid: not applicable(pesticide) Other ingredients are listed		
AICS(Australia):	Acetamiprid: not applicable(pesticide) Other ingredients are listed		
IECSC(China):	All ingredients are listed.		
Label Information			
NFPA Rating			
Health Hazard: 1	Flammability Hazard: 1	Instability Hazard: 0	
Special Hazard: not applicable none			
Prepared by:	Pedro Perdomo		
Approval date:	04.12.11		
MSDS number:	041211		

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