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Section 1: Identification of the Hazardous Chemical and of the Supplier

1.1 Product Identifier

Product Name: HI-NK
Trade Name: HI-NK
Active Ingredient: -
CAS No.(AI): -
Structural Formula: -
Recommended Usage: Plant nutrition

1.2 Supplier's Information

Address: Agricultural Chemicals (M) Sdn. Bhd.
962, Lorong Perusahaan 8
Taman Perindustrian Perai
13600 Perai , Pulau Pinang
Malaysia
Tel.: +6-04-3907988
Fax: +6-04-3905703
Web: www.agrichem.com.my
Emergency Phone: +6-04-3907988

Section 2: Hazard Identification

Classification: Serious eye damage, category 1
Hazardous to the Aquatic Environment-Chronic Hazard, category 3

Pictogram:



Signal Word: Danger

Hazard Statement:

H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects

Precautionary Statement:

P280: Wear protective gloves/protective clothing/eye protection/face protection.
P273: Avoid release to the environment.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



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P310: Immediately call a POISON CENTER or doctor/physician.
P501: Dispose of contents/container in compliance with local regulations.

Section 3: Composition and Information of the Ingredients of the Hazardous Chemical

Component	CAS No.	Weight, %	Hazard Code
Copper Compound	-	<1 %	H302, H315, H319
Boron Compound	-	<0.50 %	H360
Ferrous Compound	-	1 % to < 3 %	H302, H315, H319, H335
Manganese Compound	-	<0.50 %	H304, H411
Molybdenum Compound	-	<0.10 %	H315, H319, H335
Chelating agent	-	5 % to <10 %	H302, H318
Anti Caking Agent	-	1 % to <3 %	H373
Citric Acid	-	<0.50 %	H319

*This product contains other materials which are not classified as hazardous under CLASS Regulations.

Section 4: First-aid Measures

Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin Contact: Remove/take off immediately all contaminated clothing and wash before reuse. Rinse skin with water/shower. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth. Do NOT induce vomiting.

Symptoms: No data available.

Notes to Physician: No symptoms of poisoning have been reported. Treatment is symptomatic.

Section 5: Fire-fighting Measures

Suitable Extinguishing Media: Foam, CO₂, dry chemical.

Specific Hazard During Fire: None

Special Protective Equipment: Fire fighters should wear full-faced self contained breathing apparatus and protective clothing.



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Section 6: Accidental Release Measures

Personal Precautions:	Do not handle until all safety precautions have been read and understood. Wear appropriate protective equipment as per required.
Environmental Precautions:	Avoid release to the environment.
Method for Cleaning Up:	Wear protective clothing as indicated in Section 8. Evacuate non essential personnel. Absorb spills with inert material such as clay, sand, earth, sawdust etc. and collect in a drum. Cover up the contaminated area with household detergent and small amount of water. Brush the slurry and spread inert absorbents on the slurry liquid and collect the absorbed material in a drum. Seal drum and dispose of. Do not contaminate water resources.

Section 7: Handling and Storage

Precautions for Safe Handling:	Wear protective gloves/protective clothing/eye protection/face protection. Wash face and hands thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid breathing mist, vapours or spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Conditions for Safe Storage:	Keep in original container, tightly closed, out of reach of children. Keep away from food, drink and animal feeding stuff. Ground/bond container and receiving equipment. Store in a cool place and protect from direct sunlight. Do not contaminate water. Open dumping is prohibited. Store locked up.
Incompatibles:	Strong acids or strong alkalines.

Section 8: Exposure Control and Personal Protection

Exposure Limit:	No data available
Engineering Control:	General ventilation
Individual Protection Measure:	Avoid inhalation. Always wash hands thoroughly before eating or drinking. Contaminated work clothing should not be allowed out of the workplace. Avoid contact with skin and eyes.
Personal Protective Equipment:	
Eye Protection:	Wear safety goggles.
Skin Protection:	Wear suitable protective clothing, PVC gloves and boots.
Respiratory Protection:	Wear suitable respiratory equipment.



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Section 9: Physical and Chemical Properties

Appearance:	Greenish flowable
Odour:	Characteristic odour
Odour Threshold:	No data available
pH:	5.5
Melting/Freezing Point:	No data available
Initial Boiling Point:	40°C
Boiling Range:	No data available
Flash Point:	Not applicable
Evaporation Rate:	No data available
Flammability:	No data available
Upper Flammability Limit:	No data available
Lower Flammability Limit:	No data available
Vapour Pressure:	No data available
Vapour Density:	No data available
Relative Density:	1.3511 kg/m ³ (density)
Solubility in Water:	Soluble in water
Partition Coefficient P _{o/w} :	No data available
Auto-ignition Temperature:	No data available
Decomposition Temperature:	No data available
Viscosity:	No data available

Section 10: Stability and Reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Stable under normal conditions.
Hazardous Reaction:	Hazardous polymerization will not occur.
Condition to Avoid:	Direct sunlight, heat or extreme temperature.
Incompatible Material:	Strong acids or strong alkalines.
Hazardous Decomposition Product:	Hazardous decomposition will not occur.

Section 11: Toxicological Information

11.1 Acute Toxicity

Component: Ammonium Molybdate		
Ingestion, Oral LD ₅₀ :		
	Rat	333mg/kg
Component: Anticaking agent		
Ingestion, Oral LD ₅₀ :		
	Rat	12565mg/kg



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Dermal, LD ₅₀		
	Rabbit	11980mg/kg
Component: Boric Acid		
Ingestion, Oral LD ₅₀ :		
	Rat	3765mg/kg
Dermal, LD ₅₀		
	Rabbit	> 2000mg/kg
Inhalation, LC ₅₀		
	Rat	> 2.03mg/L
Component: Chelating agent		
Ingestion, Oral LD ₅₀ :		
	Rat	1000 - 2000mg/kg
Component: Copper Sulphate		
Ingestion, Oral LD ₅₀ :		
	Rat	481mg/kg
Dermal, LD ₅₀		
	Rat	> 1000mg/kg
Component: Ferrous Sulphate		
Ingestion, Oral LD ₅₀ :		
	Rat	319mg/kg
Component: Zinc Chloride		
Ingestion, Oral LD ₅₀ :		
	Rat	350mg/kg
	Mouse	1260mg/kg
Inhalation, LC ₅₀		
	Rat, 10 min	1975mg/m ³

11.2 Chronic Effect from Short and Long Term Exposure

Skin Contact:	Causes skin irritation
Eye Contact:	Causes serious eye damage
Inhalation:	No data available
Ingestion:	No data available
Carcinogenicity:	No data available
Mutagenicity:	No data available
Teratogenicity:	No data available

11.3 Symptoms No data available.

Section 12: Ecological Information

Ecotoxicity:

Component: Ammonium Molybdate

Acute Toxicity:		
	<i>Onchorynchus mykiss</i> , LC ₅₀ , 96hr	320mg/L
	<i>Daphnia magna</i> , EC ₅₀ , 48 hr	140mg/L
	<i>Desmodesmus subspicatus</i> , EC ₅₀ , 48 hr	41mg/L
Component: Anticaking agent		



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Acute Toxicity:			
	Fathead minnow, LC ₅₀ , 96hr	75200mg/L	
	Water flea, EC ₅₀ , 24hr	> 10000mg/L	
Component: Boric Acid			
Acute Toxicity			
	Fish, LC ₅₀ , 96 hr	74 - 725mg/L	
	Aquatic invertebrates, EC ₅₀ , 48hr	45 - 1376mg/L	
	<i>Pseudokirchneriella subcapitata</i> , EC ₅₀ , 72hr	40mg B/L	
Chronic Toxicity			
	Fish, NOEC/EC ₁₀	2.89 - 16.65mg B/L	
	Higher plants/Alga/Clorophita, NOEC/EC ₁₀	4 - 50mg B/L	
	Crustacea/Amphibian, NOEC/EC ₁₀	5.67 - 40.62 mg B/L	
	Aquatic micro-organisms, EC ₅₀ , 3hr	>175mg B/L	
Component: Chelating agent			
Acute Toxicity			
	Fish (<i>Leuciscus idus</i>), LC ₅₀ , 96hr	> 500mg/L	
Component: Copper Sulphate			
Acute Toxicity			
	Freshwater fish, LC ₅₀ , 96 hr	0.1mg/L	
	Water flea, EC ₅₀ , 48hr	0.024mg/L	
Component: Ferrous Sulphate			
No data			
Component: Zinc Chloride			
Acute Toxicity			
	<i>Onchorynchus mykiss</i> , LC ₅₀ , 96hr	0.179-0.393mg/L	Mortality
	<i>Lymnaea stagnalis</i> , EC ₅₀ , 6hr	64mg/L	Intoxication
	<i>Callianassa australienses</i> , EC ₅₀ , 7d	1.61-2.45mg/L	Intoxication
	<i>Callianassa australienses</i> , EC ₅₀ , 10d	1.38-1.71mg/L	Intoxication
	<i>Callianassa australienses</i> , EC ₅₀ , 14d	0.97-1.22mg/L	Intoxication

Persistence and Degradability: No data available
Bioaccumulative Potential: No data available
Mobility in Soil: No data available
Other Adverse Effect: No data available

Section 13: Disposal Information

Dispose of contents/container in compliance with local regulations.

Section 14: Transportation Information

Land (ADR/RID)	Not regulated
Sea (IMDG)	Not regulated
Air (IATA)	Not regulated

