1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Agri-Tin 80 WSP**
EPA Reg. No.: 55146-72
Product Type: Agricultural Fungicide

Company Name: Nufarm Americas Inc. AGT Division
11901 S. Austin Avenue
Alsip, IL 60803
1-800-345-3330

Telephone Numbers: **For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident,**
Call CHEMTREC Day or Night: 1-800-424-9300
For Medical Emergencies Only, Call 1-877-325-1840

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as on the FIFRA label. Certain sections are superseded by federal law governed by EPA for a registered pesticide. Please see Section 15. REGULATORY INFORMATION for explanation.

2. HAZARDS IDENTIFICATION

PHYSICAL HAZARDS:
Not hazardous

HEALTH HAZARDS:

Acute Toxicity Oral	Category 3
Acute Toxicity Dermal	Category 3
Acute Toxicity Inhalation	Category 1
Eye Damage	Category 1
Skin Irritation	Category 2
Specific Target Organ Toxicity – Single Exposure	Category 3
Specific Target Organ Toxicity – Repeat Exposure	Category 1
Carcinogen	Category 2
Reproductive Toxicity	Category 2

ENVIRONMENTAL HAZARDS:

Hazardous to aquatic environment, acute	Category 1
Hazardous to aquatic environment, chronic	Category 1

SIGNAL WORD:
DANGER

HAZARD STATEMENTS:
Fatal if inhaled. Toxic if swallowed or in contact with skin. Causes serious eye damage. Causes skin and respiratory tract irritation. Causes damage to immune system, pituitary, testes, and liver through prolonged exposure. Suspected of causing cancer. Suspected of damaging the unborn child. Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS
Obtain special instructions. Do not handle until all safety precautions have been read and understood. Do not breathe dust. Use only outdoors or in a well-ventilated area. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear respiratory protection, protective gloves, protective clothing, and eye protection. Avoid release to the environment.

IF exposed or concerned: Get medical advice.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor.

IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice. Call a POISON CENTER or doctor if you feel unwell. Take off contaminated clothing and was before reuse. Wash contaminated clothing before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Collect spillage.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents in accordance with local, state, and federal regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO.	% BY WEIGHT
Triphenyltin Hydroxide	76-87-9	77.6 – 82.4
Kaolin Clay	1332-58-7	4.9 – 5.4
Crystalline silica, quartz	14808-60-7	<0.2
Titanium dioxide	13463-67-7	<0.2
Silica amorphous, precipitated	112926-00-8	1.7 – 1.9
Synthetic amourphous, pyrogenic silica	112945-52-5	<0.2
Other Ingredients	Trade Secret	Trade Secret

Synonyms: TPTH, Triphenyltin Hydroxide; Fentin Hydroxide

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get immediate medical attention.
If Swallowed: Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person. Get medical attention.
If Inhaled: Immediately remove person to fresh air. If breathing is difficult, administer oxygen. Get immediate medical attention.
If on Skin or Clothing: Take off contaminated clothing. Rinse skin with plenty of water. Get medical attention.
Most important symptoms/effects, acute and delayed: Causes severe eye irritation and damage. Fatal if inhaled. Toxic if swallowed or in contact with skin. Causes skin and respiratory tract irritation. Suspected of causing cancer. Suspected of damaging the unborn child. Causes damage to immune system, pituitary, testes, and liver through prolonged exposure.
Indication of immediate medical attention and special treatment needed, if necessary: Immediate medical attention is required for all routes of exposure.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use dry chemical, carbon dioxide, water fog or foam.
Special Fire Fighting Procedures: Firefighters should wear NIOSH approved self-contained breathing apparatus and full fire-fighting turn out gear. Dike area to prevent runoff and contamination of water sources. Dispose of fire control water later.
Unusual Fire and Explosion Hazards: Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. If water is used to fight fire, contain runoff, using dikes to prevent contamination of water supplies. Dispose of fire control water later. Decontaminate tools and equipment following cleanup.

Hazardous Decomposition Materials (Under Fire Conditions): May produce diphenyltin hydroxide, monophenyltin hydroxides and metallic tin. (Technical: organic acid vapors.)

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear appropriate protective gear for the situation. See Personal Protection information in Section 8.
Environmental Precautions: Prevent material from entering public sewer systems or any waterways. Do not flush to drain. Large spills to soil or similar surfaces may necessitate removal of topsoil. The affected area should be removed and placed in an appropriate container for disposal.
Methods for Containment: Dike spill using absorbent or impervious materials such as earth, sand or clay. Collect and contain contaminated absorbent and dike material for disposal.
Methods for Clean-Up and Disposal: Avoid creation of dusty conditions. If dry, sweep or scoop up material and place into container for disposal. If wet, pump any free liquid into an appropriate closed container. See Section 13: DISPOSAL CONSIDERATIONS for more information.
Other Information: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Large spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

HANDLING:
Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.

Do not get in eyes, on skin, or on clothing. Do not breathe dust, vapor, or spray mist. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove contaminated clothing and wash clothing before reuse.

STORAGE:
Store above 14°F (-10°C). Store in original container in a dry secured storage area. Keep container tightly closed when not in use. Do not contaminate water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:
Where engineering controls are indicated by specific use conditions or a potential for excessive exposure, use local exhaust ventilation at the point of generation.

Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal Protective Equipment:.
Eye/Face Protection: To avoid contact with eyes, wear chemical goggles or shielded safety glasses. Wear chemical-resistant headgear for overhead exposure. An emergency eyewash or water supply should be readily accessible to the work area.
Skin Protection: To avoid contact with skin, wear coveralls over long-sleeved shirt and long pants, chemical resistant shoes plus socks, and chemical-resistant gloves made of any waterproof material, such as butyl rubber, nitrile rubber, or neoprene rubber. An emergency shower or water supply should be readily accessible to the work area.
Respiratory Protection: Dust filtering respirator (NIOSH approval TC-21C), or a NIOSH approved respirator with any N, R, P or HE filter.
General Hygiene Considerations: Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate Do not reuse them. 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: 1) Do not store, use and/or consume foods, beverages, tobacco products, or cosmetics in

areas where this material is stored. 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics or using the toilet.

Exposure Guidelines:

	OSHA		ACGIH		
Component	**TWA**	**STEL**	**TWA**	**STEL**	**Unit**
Triphenyltin Hydroxide (As Organic Tin Compounds)	0.1	NE	0.1 (Skin)	0.2 (Skin)	mg/m^3
Kaolin Clay	5 (R) 15 (T)	NE	2 (R)	NE	mg/m^3
Crystalline silica, quartz	50 (R) $\%SiO_2+2$	NE	25 (R)	NE	$\mu g/m^3$
Titanium dioxide	15 (T)	NE	10	NE	mg/m^3
Silica amorphous, precipitated	80*	NE	NE	NE	mg/m^3
Synthetic amourphous, pyrogenic silica	NE	NE	NE	NE	
Other Ingredients	NE	NE	NE	NE	

NE = Not Established * mg/m^3 / % SiO_2+2 R = Respirable Fraction T = Total Dust

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Beige powder
Odor: Cocoa-like
Odor threshold: No data available
pH: 8.71 (0.1 M solution)
Melting point/freezing point: No data available
Initial boiling point and boiling range No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): No data available
Upper/lower flammability or explosive limits: No data available
Vapor pressure: No data available
Vapor density: No data available
Relative density: 1.57 g/mL @ 20º C
Solubility(ies): No data available
Partition coefficient: n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available

Note: Physical data are typical values, but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.
Chemical Stability: This material is stable under normal handling and storage conditions.
Possibility of Hazardous Reaction: Will not occur.
Conditions to Avoid: Direct sunlight causes degradation to an inorganic tin salt. Keep away from heat, sparks and open flame. Minimize dust generate and accumulation.
Incompatible Materials: Acids and oxidizers.
Hazardous Decomposition Products: Under fire conditions, may produce diphenyltin hydroxide, monophenyltin hydroxides and metallic tin. (Technical: organic acid vapors.)

11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, eye and skin contact.
Symptoms of Exposure:
Eye Contact: Contact with eyes may cause eye corrosion or ulceration; blindness may result.
Skin Contact: Contact with skin may cause severe irritation with burning, redness, swelling, pain or rash. Toxic if absorbed through the skin. May cause symptoms similar to those for ingestion.

Ingestion: Toxic if swallowed. Ingestion may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting or diarrhea.
Inhalation: Fatal if inhaled. Inhalation may cause irritation of nose, throat and lungs, cough, difficulty breathing or shortness of breath.
Delayed, immediate and chronic effects of exposure: May produce severe irritation or contact dermatitis which may be delayed several hours.

Toxicological Data:
Data from laboratory studies conducted on this product.
Oral: Rat LD_{50}: 160 mg/kg
Dermal: Rat LD_{50}: 500 mg/kg
Inhalation: Rat 4-hr LC_{50}: 0.039 mg/L
Eye Irritation: Rabbit: Corrosive
Skin Irritation: Rabbit: Moderately irritating
Skin Sensitization: Not a contact sensitizer in guinea pigs following repeated skin exposure.

Subchronic (Target Organ) Effects: Repeated overexposures to TPTH may produce impaired immune system function with increased susceptibility to disease, altered white blood cell and lymphocyte counts, and effects on the pituitary, testes, and liver.
Carcinogenicity / Chronic Health Effects: The U.S. EPA has classified TPTH as a Class B2 carcinogen (probable human carcinogen) based on pituitary and testicular tumors in rats and liver tumors in mice.
Reproductive Toxicity: In a multi-generational reproduction study in rats, TPTH produced decreased litter size, liver and spleen weights at exposure levels lower than where parental toxicity was observed.
Developmental Toxicity: TPTH studies in laboratory animals show developmental effects only at exposure levels producing other toxic effects in the parental animal.
Genotoxicity: TPTH is not considered to have a mutagenicity/genetic toxicity concern. Most studies are negative for mutagenic/genetic toxicity effects. Although there are some apparent positive responses, other tests, particularly *in vivo*, conducted to verify the significance of the apparent positive studies *in vitro* were negative.

Assessment Carcinogenicity:
This product contains substances that are considered to be probable or suspected human carcinogens as follows:

	Regulatory Agency Listing As Carcinogen			
Component	**ACGIH**	**IARC**	**NTP**	**OSHA**
Triphenyltin Hydroxide (As Organic Tin Compounds)	A4	No	No	No
Kaolin Clay	No	No	No	No
Crystalline silica, quartz	A2	1	Known	No
Titanium dioxide	A4	2B	No	No
Silica amorphous, precipitated	No	3	No	No
Synthetic amourphous, pyrogenic silica	No	No	No	No
Other Ingredients	No	No	No	No

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Data on TPTH Technical:

96-hour LC_{50} Bluegill:	23.0 ppb	Bobwhite Quail Dietary LC_{50}:	253 ppm
96-hour LC_{50} Rainbow Trout:	22.0 ppb	Mallard Duck Oral LD_{50}:	378 mg/kg
48-hour EC_{50} Daphnia:	10.0 ppb	Bees LD_{50}:	>114.8 ug/bee

Environmental Fate:
Data indicates that TPTH binds strongly to soil, is stable to photolysis and resistant to photo degradation and hydrolysis. Because of its soil binding qualities, TPTH is not expected to leach to groundwater. However, TPTH could reach surface water through spray drift and run-off.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:
Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Handling and Disposal:

Nonrefillable Containers 50 lb or Less

Nonrefillable container: DO NOT reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

Nonrefillable Containers larger than 50 lb

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration, or, if allowed by State and local authorities, by burning. If burned stay out of smoke.

Fiber Drums with Liners

Nonrefillable container. Do not reuse or refill this container. Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment or a mix tank. Then offer for recycling, if available, or dispose of liner in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke. If drum is contaminated and cannot be reused, dispose of it in the manner required for its liner.

Refillable containers larger than 5 gallons

Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water. Agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

14. TRANSPORTATION INFORMATION

Follow the precautions indicated in Section 7: HANDLING AND STORAGE of this SDS.

DOT

UN2786, Organotin pesticides, solid, toxic, (Triphenyltin Hydroxide), 6.1, III

IMDG

UN2786, Organotin pesticides, solid, toxic, (Triphenyltin Hydroxide), 6.1, III, Marine Pollutant

IATA

UN2786, Organotin pesticides, solid, toxic, (Triphenyltin Hydroxide), 6.1, III, Marine Pollutant

15. REGULATORY INFORMATION

EPA FIFRA INFORMATION

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

DANGER – POISON. Fatal if inhaled. Corrosive, causes irreversible eye damage and skin burns. May be fatal if swallowed or absorbed through the skin. Do not get in eyes, or on skin or on clothing. Do not breathe dust, vapor or spray mist. Remove contaminated clothing and wash clothing before reuse. The United States Environmental

Protection Agency has determined that triphenyltin hydroxide, the active ingredient of this product, affects fetal development in laboratory animals. Exposure to this product during pregnancy should be avoided.

U.S. FEDERAL REGULATIONS

TSCA Inventory: This product is exempted from TSCA because it is solely for FIFRA regulated use.

SARA Hazard Notification/Reporting:

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):

Acute Health, Chronic Health

Section 313 Toxic Chemical(s):

Triphenyltin (CAS No. 76-87-6-9) 96% by weight in product

Reportable Quantity (RQ) under U.S. CERCLA:

None

RCRA Waste Code:

Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

State Information:

Other state regulations may apply. Check individual state requirements.

California Proposition 65: WARNING. This product contains chemicals known to the State of California to cause cancer or birth defects or other reproductive harm.

16. OTHER INFORMATION

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: Health: 4 **Flammability:** 1 **Reactivity:** 0

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-ACCEPTED PRODUCT LABELING (attached to and accompanying the product container). This SDS provides important health, safety and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products are regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of Federal law to use a pesticide product in any manner not prescribed on the EPA-accepted label.

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