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MATERIAL SAFETY DATA SHEET

HMIS RATINGS

Health Hazard: 3
Flammability Hazard: 1
Reactivity Hazard: 0

Sea-Bird Product Number: 801542.1
Rev. NA
Issue Date: January 28, 2010
Supersedes: NA

SECTION 1: PRODUCT IDENTIFICATION

Product Name: AF24173 Anti-Foulant Device (EPA Reg. No. 74489-1)

EMERGENCY TELEPHONE NUMBER: 1-800-858-7378 daily, 6:30 AM – 4:30 PM Pacific Time

SECTION 2: HAZARDOUS COMPONENT INFORMATION

| <u>Hazardous Ingredients</u> | <u>CAS Reg No.</u> | <u>Wt. %</u> |
|------------------------------|--------------------|--------------|
| Bis (tributyltin) oxide | 56-35-9 | 53 |

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview: White plastic cylinder (0.68 inches diameter and 0.68 inches tall). The plastic is impregnated with bis(tributyltin) oxide. Bis(tributyltin)oxide is harmful if swallowed or absorbed through the skin. It can cause chemical burns of the eyes and skin and may cause allergic skin reactions. Vapors can irritate the respiratory tract.

Potential Health Effects:

Relevant Routes of Exposure: Inhalation; Ingestion; Eye Contact; Skin Contact

Oral: Can cause irritation of the gastrointestinal and respiratory tracts. Symptoms may include head ache.

Eyes: Can cause severe irritation and possibly burns (corrosive) to the eye.

Skin: Contact with the skin can cause irritation and possibly chemical burns (corrosive). Skin reactions can be delayed (6-10 hours after initial contact). Prolonged and repeated contact may cause allergic skin reactions.

Inhalation: Vapors may cause respiratory tract irritation

Carcinogenicity: Not listed by NTP, IARC or OSHA.

Target Organs: Ocular, respiratory, dermal, gastrointestinal (GI), and nervous system.

SECTION 4: FIRST AID PROCEDURES

First Aid Procedures:

Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin: Remove contaminated clothing and shoes. Wash skin with soap and large amounts of water. If irritation occurs or persists, get medical attention. Wash clothing and shoes before reuse.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Get medical attention.

Ingestion: Get medical attention immediately. Do not induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person.

SECTION 5: FIRE HAZARDS

Unusual Fire and Explosion Hazards: None known.

Fire Fighting Procedures:

NIOSH approved positive pressure, self-contained breathing apparatus and full protective turn out gear.

Evacuate personnel to an area upwind to avoid smoke and vapors.

Remove containers of this material if it can be done safely.

Use water to keep fire-exposed containers cool.

Protective clothing and equipment must be decontaminated if contact with the material or vapors has occurred.

Extinguishing Media: All common extinguishing media are suitable.

Conditions to Avoid: Not determined.

Hazardous Combustion Products: May produce irritating and toxic smoke and fumes. The composition of the combustion products has not been determined.

Flash Point: Not determined.

Flammability Limits: **Lower:** Not determined **Upper:** Not determined

Autoignition Temperature: Not determined

SECTION 6: ACCIDENTAL RELEASE MEASURES

Pre-Entry Spill Procedure:

Shut off source of spill if it is safe to do so.

Eliminate sources of ignition.

Review Section 3 - Hazards Identification and Section 8 - Exposure Control/Personal Protection before proceeding with the clean up.

Clean Up and Containment:

Scoop or shovel spilled material into suitable labeled containers with a tight fitting lid.

Secure the drum cover and move the container to a safe holding area.

Check area for residual material and repeat clean up if detected.

Environmental Concerns: None expected.

Treatment and Disposal:

Decontaminate or dispose of all protective clothing and equipment.

See Section 13 - Disposal Recommendations for disposal information.

Reporting Requirements:

The United States Environmental Protection Agency (USEPA) has not established a Reportable Quantity (RQ) for release of this material.

Report all releases which are likely to endanger the public health, harm the environment, or cause complaint to the appropriate State or Local officials.

SECTION 7: HANDLING AND STORAGE

General Measures:

Store at room temperature, in airtight containers and protect from light.

Keep away from heat, sparks, and flame.

Materials or Conditions to Avoid:

Acids and oxidizing agents.

Elevated temperatures.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

General Hygienic Practices:

Do not get on eyes, skin, or clothing.

Do not breathe dust or fumes.

Wash thoroughly after handling.

Recommended Exposure Limits:

| Substance | ACGIH - TLV TWA/STEL | OSHA - PEL TWA/STEL |
|--|---|--------------------------------|
| Tin, Organic tin compounds, as Sn (Skin Notation) | 0.1 mg/m ³ / 0.2 mg/m ³ | 0.1 mg/m ³ |

Personal Protective Equipment:

Eyewear: Chemical goggles.

Skin: Gloves and protective clothing are required if there is a potential for skin contact. A plastic or rubber glove which provides a physical barrier is required. Use disposable spun polyolefin (e.g. Tyvek) coveralls or equivalent to protect against contact. Consult the glove and clothing manufacturers, suppliers and/or industrial hygienist for further information.

Respiratory Protection: Respiratory protection is required whenever air contamination (dust, mist, or vapors) is generated by the process. A NIOSH approved high efficiency toxic dust/mist/fume respirator is recommended.

Work Practices and Engineering Controls:

General room ventilation is adequate unless the process generates dust or fumes.

Protective Measures During Repair and Maintenance:

No special measures are required.

Follow the recommendation for personal protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Plastic cylinder (0.68 inches diameter and 0.68 inches tall).

Color: White

Odor: Slight

Taste: Not determined

pH: Not determined.

Volatile (Wt. or Vol.), %: Not determined.

Moisture Content, (Wt.) %: Not determined.

Solubility in Water: Not soluble.

Solubility - other solvents: Not determined.

Specific Gravity/Bulk Density: 1.02 g/cm³.

Vapor Pressure: Not determined.

Vapor Density (air = 1): Not determined.

Evaporation Rate (butyl acetate =1):<1

Boiling Point: Not determined

Melting Point: Not determined.

SECTION 10: STABILITY AND REACTIVITY

General Stability Considerations: Stable at room temperature.

Incompatible Materials: Oxidizing agents and acids.

Hazardous Decomposition Products: Not determined.

Hazardous Polymerization: Does not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: Acute toxicological studies with the AF24173 Anti-Foulant device have not been conducted..

Acute toxicological data for bis(tributyltin)oxide is presented below:

Oral LD₅₀ - rat = 123-193 mg/kg; Inhalation LC₅₀ - 4 hour, rat = 0.06 mg/l (a saturated vapor killed some rats after one hour of exposure); Dermal LD₅₀ - rabbits = >300 mg/kg; Eye irritation, rabbit = corrosive: Skin irritation, rabbit = corrosive (5 minute exposure, not alleviated by washing); Skin sensitization, guinea pig = positive (1% in acetone)

Reproductive Effects: No effects on reproductive performance or fertility or pathologic lesions were seen in male and female rats administered the bis(tributyltin)oxide at dietary levels up to 50 ppm throughout pre-mating, mating, pregnancy and nursing periods for 2 generations. Reduced body weights and food consumption were reported in the high dose group. Pup weights were reduced at the 5 ppm level and greater.

Teratogenicity Information: Minor ossification effects were seen in rats dosed orally during pregnancy, but only at maternally toxic doses (9 and 18 mg/kg). An increase in the incidence of birth defects (mainly cleft palate) was noted at 18mg/kg. No developmental effects were noted in the offspring of rabbits dosed at 2.5 mg/kg during pregnancy. However at this level there was marked maternal toxicity, increase in the incidence of abortions and fetal toxicity.

Mutagenicity/Genotoxicity Information: Not mutagenic in standard *in vitro* tests using animal and bacterial cells.

Carcinogenicity and Chronic: Bis(tributyltin)oxide, at levels up to 5mg/kg, caused no effects on the nervous system or behavior of dogs following oral administration for 1 year or in rats fed diets containing up to 50 ppm for 2 years. In the 2-year rat study there was a suppression of the immune system, signs of anemia, impaired, thyroid, liver and spleen changes, an increased incidence of benign tumors of the pituitary, adrenal and parathyroid glands. A marginal reduction in spleen iron content was seen at 5 ppm. No adverse effects were reported at 0.5 ppm. Rats dosed orally for 10 days at 25 mg/kg showed a suppression of the immune, along with anemia and inflammation of the bile ducts and tubules

SECTION 12: ECOLOGICAL INFORMATION

Environmental Fate: Alkyl organotin compounds have high bioconcentration factors (up to 10,000). The rate of hydrolysis and photolysis in aqueous environments is slow. They are absorbed to soils and sediment and do not leach through soil columns.

Ecotoxicity: Bis(tributyltin) oxide is highly toxic to freshwater and marine fish (96-hr LC_{50} = 6.9-24 ppb), freshwater and marine crustacea (48 and 96-hr LC_{50} = 1.7-9.1 ppb) mollusks (48 and 96-hr EC_{50} = 0.3-1.0 ppb) The chronic no-observed-effect concentration (NOEC) for sheephead minnow chronic and life-cycle end points was 0.42-0.96 ppb and the 28-day oyster larvae endpoint was 0.5 ppt. The chronic NOEC for the Daphnia magna endpoint was 80 ppt.

SECTION 13: DISPOSAL RECOMMENDATIONS

Waste Disposal Method: . Pesticide that cannot be used according to label instructions must be disposed of according to Federal or approved State procedures under Subtitle C of the Resource Conservation and Recovery Act.

Empty Container Disposal: Dispose of in a sanitary landfill or by other approved State and Local procedures.

SECTION 14: TRANSPORTATION INFORMATION

U.S. DOT: Not regulated.

IATA: Not regulated.

IMO: Not regulated.

SECTION 15: REGULATORY INFORMATION

SARA TITLE III: Section 302. Not listed.
Section 313. Not listed.

CERCLA Hazardous Substance: Not listed.

RCRA Hazardous Substance: Not listed.

California Prop. 65 List: Not listed.

Massachusetts Substance List: Tributyltin oxide is listed.

New Jersey Right to Know Hazardous Substance List: Tributyltin oxide is listed.

Pennsylvania Hazardous Substance List: Not listed.

Canadian WHMIS List: Not listed.

SECTION 16: OTHER INFORMATION

This product is a registered pesticide (U.S. EPA). Use of this product in a manner inconsistent with the product label or instructions in the instrument manual is a violation of Federal law.

LIST OF ACRONYMS:

ACGIH: American Conference of Governmental Industrial Hygiene

AIHA WEEL: American Industrial Hygienists Association - Workplace Environmental Exposure Level

ANSI: American National Standards Institute

C: Ceiling

California Prop. 65: California Safe Drinking Water and Toxic Enforcement Act (Prop 65)

Canadian WHMIS: Canadian Workplace Hazardous Materials Information System Ingredient Disclosure

CASRN: Chemical Abstracts Service Registry Number

CERCLA: Comprehensive Emergency Response, Compensation and Liability Act

DEA: Drug Enforcement Administration

DOT: U. S. Department of Transportation

HMIS: Hazardous Materials Identification System

IARC: International Agency for Research on Cancer

IATA: International Air Transport Association

IMO: International Maritime Organization

N/A: Not Applicable

NOR: Not Otherwise Regulated

NTP: National Toxicology Program

OSHA: Occupational Safety and Health Administration

PEL: OSHA Permissible Exposure Limit

RCRA: Resource Conservation and Recovery Act

RQ: Reportable Quantity

SARA: Superfund Amendment Reauthorization Act

STEL: Short-Term Exposure Limit

TLV: Threshold Limit Values (registered trademark of ACGIH)

TPQ: Threshold Planning Quantity

TSCA: Toxic Substances Control Act

TWA: Time Weighted Average

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty, or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.