

# Safety Data Sheet

C-TEC ZHS

MSDS No. 9765.14

Date of Preparation: 5/21/97

Revision: 5/23/19

## Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** C-TEC ZHS

**Other means of identification:** zinc hydroxystannate

**Recommended Use:** Flame retardant in plastics, rubbers, and resins.

**Manufacturer:** Marshall Additive Technologies

Division of the R. J. Marshall Company

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**Date Revised:** 5/23/19

**Preparer:** Stephanie Nichols

## Section 2 - Hazards Identification

**Classification of the chemical in accordance with paragraph (d) of 1910.1200:** Non-hazardous

**Signal word:** None

**Symbol:** None

**Hazard Statements:** not applicable

**Precautionary Statements:** not applicable

**Hazards not otherwise classified:** Large amounts of the product can be harmful to plants and other species. Therefore, releases to the environment should be minimized.

## Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	Percent by Weight
Zinc Hydroxy Stannate	12027-96-2	Max 100.0

Mixtures: Not applicable

## Section 4 - First Aid Measures

**Description of necessary measures, subdivided according to the different routes of exposure:**

**Inhalation:** If symptoms such as nose or throat irritation are observed, remove person to fresh air. No specific treatment is necessary. **Eye Contact:** May cause eye irritation. Rinse eyes with fresh water or eye wash fountain. If irritation persists for than 30 minutes, seek medical attention.

**Skin Contact:** May cause drying of the skin. If irritation appears, wash thoroughly with soap and water.

**Ingestion:** Small amounts (tsp or less) swallowed accidentally are not likely to cause effects. If larger amounts are swallowed, give two glasses of water to drink and seek medical attention.

**Most important symptoms and effects, both acute and delayed:** Accidental inhalation of dust at greater than 10mg/m<sup>3</sup> may cause light irritation to the respiratory system.

**Indication of any immediate medical attention and special treatment needed:** Note to physicians: supportive care only is required for adult ingestion of less than a few grams of the product. For ingestion of larger amounts, maintain fluid and electrolyte balance and maintain adequate kidney function. Gastric lavage is only recommended for heavily exposed, symptomatic patients in whom emesis has not emptied the stomach. Hemodialysis should be reserved for patients with massive acute absorption, especially for patients with compromised renal function.

## Section 5 - Fire-Fighting Measures

**Suitable Extinguishing Media:** The material is not combustible. Use extinguishing media appropriate for surrounding fire.

**Unsuitable Extinguishing Media:** none

**Special hazards deriving from the substance:** None. The substance is not flammable, combustible, or explosive.

**Advice for fire-fighters:** No special protective clothing is required. Apply standard procedures. No specific precaution is necessary.

## Section 6 - Accidental Release Measures

**Personal precautions, protective equipment, and emergency procedures:** For normal industrial exposures gloves and goggles are not required. Wear safety glasses and dust mask when exposure is prolonged and there is a high concentration in the air.

**Methods and materials for containment and cleaning up:** Prevent spills in water and cover discharges. Clean up spills and place in container for disposal according to local regulations.

**Environmental Precautions:** Where appropriate material should be recovered and recycled through the process. Spillages of powder should be swept or vacuumed up immediately and placed in containers for disposal in order to prevent unintentional releases to the environment.

## Section 7 - Handling and Storage

**Precautions for safe handling:** Avoid spillage. Do not eat, drink, or smoke in working areas. Wash hands after handling and before eating, drinking, or smoking. Remove contaminated clothing and PPE before entering areas where meals are consumed.

**Storage Requirements:** Keep container dry and store tightly closed containers in cool, dry, well-ventilated area away from strong reducing agents. Limit humidity, protect from light, keep at a temperature between 23°F (-5°C) and 104°F (40°C).

**Shelf Life:** 12 months when stored in dry, cool, well ventilated area.

## Section 8 - Exposure Controls / Personal Protection

### Control Parameters:

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Inorganic Tin Compounds	2 mg/m <sup>3</sup>	None established	2 mg/m <sup>3</sup>	None established

Note: For the purpose of reporting for Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.0 the maximum percent by weight Zinc content is 23.5.

### Engineering Controls:

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

### Administrative Controls:

**Respiratory Protection:** If ventilation is insufficient wear approved dust mask.

**Hand Protection:** The use of gloves for chemical protection is suggested.

**Eye Protection:** Wear safety glasses for long exposures and high concentration levels.

**Skin Protection:** Wear conventional working clothes.

**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Do not eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

## Section 9 - Physical and Chemical Properties

**Appearance:** white powder

**Odor:** Odorless

**Odor Threshold:** not applicable

**pH:** 7 @ 68°F (20°C) (20% aqueous solution)

**Freezing/Melting Point:** >932°F (500°C)

**Boiling Point:** not applicable

**Flash Point:** not applicable

**Flash Point Method:** not applicable

**Evaporation Rate:** not applicable

**Flammability:** Non-flammable, non-combustible.

**Upper/lower flammability or explosive limits:** not applicable

**Vapor Pressure:** negligible @ 68°F (20°C)

**Vapor Density (Air=1):** not applicable

**Relative Density:** 3.3

**Water Solubility:** 0.003% @ 68°F (20°C)

**Other Solubilities:** Soluble in strong acids and bases.

**Partition coefficient: n-octanol/water;** not determined

**Auto-ignition Temperature:** Not determined.

**Decomposition temperature:** not determined

**Viscosity:** not applicable

## Section 10 - Stability and Reactivity

**Reactivity:** None known

**Chemical Stability:** This product is stable at room temperature in closed containers under normal storage and handling conditions.

**Possibility of hazardous reactions:** Reaction with strong reducing agents such as metal hydrides and alkali metals generates hydrogen gas which may cause a danger of explosion.

**Conditions to Avoid:** Avoid contact with strong reducing agents by storing the product in accordance with good industrial practice.

**Incompatible materials:** Strong reducing agents.

**Hazardous Decomposition Products:** None

## Section 11- Toxicological Information

**Information on the likely routes of exposure:**

**Ingestion:** Low acute oral toxicity. No specific health warnings noted.  
**Inhalation:** Low acute inhalation toxicity  
**Skin:** Low acute dermal toxicity. No specific health warnings noted.  
**Eye:** No data available.

**Symptoms related to the physical, chemical, and toxicological characteristics:**

**Ingestion:** Ingestion unlikely. Large quantities swallowed could cause choking.  
**Inhalation:** Dust may irritate respiratory system or lungs.  
**Skin:** Frequent or prolonged contact may cause mild skin discomfort.  
**Eye:** Particles in the eyes may cause irritation and redness.

**Delayed and immediate effects and also chronic effects from short- and long-term exposure:** None known.

**Numerical measures of toxicity:**

**Ingestion:** LD<sub>50</sub> rats >5000 mg/kg bw  
**Inhalation:** LC<sub>50</sub> rats >4.35 mg/l/4hr.  
**Skin:** LD<sub>50</sub> rats >2466 mg/kg bw.  
**Eye:** No data available.

**Carcinogenicity:** This product is not considered carcinogenic by OSHA, IARC, NTP, and ACGIH.

**Mutagenicity:** No evidence found

**Reproductive toxicity:** No evidence found

**Chronic toxicity:** No evidence found

**Sensitizing properties:** Frequent or prolonged contact may cause mild skin discomfort.

**Corrosiveness/Irritant properties:** Slightly irritant to eyes and respiratory system.

## Section 12 - Ecological Information

**Ecotoxicity:**

Acute toxicity to fish: No observed effect LC<sub>50</sub> >3.3mg/l (96hrs) Rainbow Trout  
 Acute toxicity to Daphnia: No observed effect EC<sub>50</sub>>3.3mg/l (48hrs)

**Persistence and degradability:** Not applicable-inorganic chemical

**Bioaccumulative potential:** Not applicable-inorganic chemical

**Mobility in soil:** Expected to be immobile in soil due to its low solubility.

**Results of PBT and vPvB assessment:** Not applicable-inorganic chemical.

**Other adverse effects:** Not regarded as dangerous for the environment.

**Water hazard classification:** No data available.

## Section 13 - Disposal Considerations

**Disposal:** Dispose of in accordance with local authority requirements. Do not disperse in city drain or watercourse. Small quantities of ZHS can usually be disposed of at landfill sites. Tonnage quantities of product are not recommended to be sent to landfills.

**Contaminated Packaging:** Must be completely emptied, segregated, and disposed of as general waste.

## Section 14 - Transport Information

**DOT Transportation Data (49 CFR 172.101):** This product is not classified as dangerous under the transport regulations for road, rail, sea, or air transport.

UN number: not classified	UN proper shipping name: not regulated	Transport hazard classes: not classified
Packing group: not classified	Environmental hazards: not classified	
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): not classified		
Special precautions: None		

**Section 15 - Regulatory Information****EPA Regulations:**

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification: Not classified

CERCLA Hazardous Substance (40 CFR 302.4) Not listed

SARA Toxic Chemical (40 CFR 372.65): Not listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed

Zinc or Zinc Compounds are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.0.

**OSHA Regulations:**

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

**TSCA**

This substance or all of its components are on the Chemical Substances Inventory of the Toxic Substance Control Act (TSCA Inventory [USA]).

Subject to Section 5(e) consent order.

A commenced PMN substance.

Identified in a proposed or final SNUR.

**INTERNATIONAL REGULATIONS**

Australia: Listed on AICS.

Canada: This product is listed on the Canadian NDSL.

China: Listed on IECSC.

Europe: This product is listed on EINECS, #404-410-4.

Japan: Listed on ENCS.

Korea: Listed on ECI, number 2001-3-1701.

New Zealand: Listed on NZIoC.

Taiwan: Listed on NECI.

**Section 16 - Other Information**

**Prepared By:** Stephanie Nichols

**Revision Notes:** updated throughout 5/23/19

**Product Grades Available from the R. J. Marshall Company** (this list may be incomplete):

C-TEC ZHS
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