

JENSEN INERT PRODUCTS**HMIS RATING: Health-1 Flammability-1 Reactivity-0****MATERIAL SAFETY DATA SHEET****SECTION I- Identification of Product**

PRODUCT NAME: Teflon® Boiling Chips

OTHER/GENERIC NAMES: Polytetrafluoroethylene, PTFE

FORM: White opaque irregular shapes.

PRODUCE USE: Promotes gentle efficient boiling & minimizes bumping during reflux, distillation, extractions, and evaporations.

MANUFACTURERS NAME/ADDRESS: Jensen Inert Products
3700N.W. 124th Avenue, Unit 102, Coral Springs, FL. 33065 USA

EMERGENCY TELEPHONE NO.: (954) 344-2006

TECHNICAL ASSISTANCE TELEPHONE NO.: (954) 344-2006

SECTION II- Composition/Information on Ingredients

<u>Ingredient Name</u>	<u>CAS Number</u>	<u>Weight %</u>
PTFE (Polytetrafluoroethylene polymer)	9002-84-0	>99%

This product as supplied is not considered hazardous as defined in the US Code of Federal Regulations, 29CFR1910.1200. This product is considered an "article" as supplied for its intended and foreseen use.

All components appear on TSCA Inventory. This product contains no substances at or above the reporting threshold under Section 313 of Title III of the US EPA Superfund Amendments and Reauthorization Act of 1986 and US Code of Federal Regulations, 40CFR part 372, based on available data.

SECTION III- Hazards Identification

EMERGENCY OVERVIEW: No special dangers are known. Use within specified processing parameters, high temperatures could evolve irritating and/or toxic fumes.

JENSEN INERT PRODUCTSPotential Health Hazards:

SKIN: Not anticipated under recommended usage conditions.
EYES: Not anticipated under recommended usage conditions. Machining chips or dust may cause eye irritation.

INHALATION: Not anticipated under recommended usage conditions.
INGESTION: Not anticipated under recommended usage conditions.

Ingredients found on one of the OSHA designated carcinogen lists are listed below:

None.

SECTION IV- First Aid Measures

SKIN: Not anticipated under recommended usage conditions. For hot product, immediately immerse in or flush affected area with large amounts of cold water. Cover with clean cotton sheeting or gauze and seek medical advice.

EYES: Not anticipated under recommended usage conditions. If necessary, flush eyes with plenty of water. If symptoms persist or injury is suspected, seek medical advice.

INHALATION: Not anticipated under recommended usage conditions. May cause influenza like symptoms if thermal decomposition products are inhaled ("polymer fume-fever"), chills, fever, head-ache. Avoid contamination of tobacco products. Remove victim to fresh air. If not breathing, perform mouth to mouth resuscitation. Seek medical attention.

INGESTION: Not anticipated under recommended usage conditions.

ADVICE TO PHYSICIAN: Expect influenza-like symptoms if thermal decomposition products are inhaled; chills, fever, head-ache, shortness of breath, coughing. This is known as "polymer fume-fever" and will pass after 24 to 48 hours providing no further exposure occurs.

SECTION V- Fire Fighting MeasuresFlammable Properties

FLASH POINT: Does not flash
FLASH POINT METHOD: N/A
AUTO IGNITION TEMPERATURE; Not known
UPPER FLAME LIMIT (volume % in Air); N/A
LOWER FLAME LIMIT (volume % in Air): N/A
OXYGEN INDEX: >95%

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Extinguishing MEDIA: Water. foam, carbon dioxide, dry chemical.

UNUSUAL FIRE ANY EXPLOSIVE HAZARDS: Does not burn without external source of fuel. Fluoropolymers can increase the relative toxic properties of the gases evolved during a fire.

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS: Use self contained breathing apparatus.

SECTION VI- Accidental Release Measures

IN CASE OF SPILLS OR OTHER RELEASE: Sweep or pick up and dispose of in solid waste container.

SECTION VII- Handling and Storage

NORMAL HANDLING: Product is physiologically inert and non toxic at normal temperatures. Above 250°C, some decomposition of PTFE products can be expected with evolution of gaseous and particulate products which are toxic if inhaled. This can give rise to a characteristic syndrome with influenza type symptoms known as "polymer fume fever". These symptoms subside within 24-48 hours away from further exposure with no long-term effects. Keep away from ignition sources- do not smoke while using Fluoropolymers.

STORAGE RECOMMENDATIONS: No special requirements.

SECTION VIII- Exposure Controls/Personal Protection

VENTILATION: Ensure good ventilation or exhaust if there is the possibility of fumes being evolved. Not required if material is used within specified processing parameters.

FIRE AND EXPLOSION: Not applicable

PERSONAL PROTECTIVE EQUIPMENT: None required if material is used within specified processing parameters. Normal safety equipment should always be used in an industrial environment. Eye protection must be worn during any machining operations.

ADDITIONAL RECOMMENDATIONS: Heat resistant clothing and skin covering when working with hot product. Do not smoke while handling material. Keep tobacco products away from sources of contamination: hands and clothes.

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EXPOSURE GUIDELINES/LIMITS:

Chemical Name:	EXPOSURE LIMITS			
	OSWLA PEL ppm	OSWLA PEL mg/m ³	ACGIH TLV ppm mg/m ³	ICI DCL ppm mg/m ³
Polytetrafluoroethylene TWA (as nuisance dust)			(1) 10	(2) 10

OSHA Table Comments:

1. PNOC Inhalable (Respirable 3 mg/m³)
2. PNOC Inhalable (Respirable 3 mg/m³)

Engineering CONTROLS:

Provide local exhaust to control large quantities of dust. All heated processing equipment must be vented safely to prevent the inhalation of thermal decomposition products.

OTHER EXPOSURE LIMITS FOR POTENTIAL DECOMPOSITION PRODUCTS: Not available.

SECTION IX- Physical and Chemical Properties

APPEARANCE: White opaque irregular shapes.

PHYSICAL STATE: Solid

ODOR: Odorless

SPECIFIC GRAVITY (H₂O = 1): 2.13-2.20

SOLUBILITY IN WATER (weight %): Insoluble

pH: Not applicable

BOILING POINT: Not applicable

MELTING POINT: approx. 327⁰C

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

EVAPORATION RATE: Not applicable

% VOLATILES: Not applicable

IGNITION TEMPERATURE: >500⁰C.

FLASH POINT: Does not flash

THERMAL DECOMPOSITION: See Section X.

JENSEN INERT PRODUCTS**SECTION X- Stability and Reactivity**

CHEMICAL STABILITY: Stable. Thermal degradation can begin at 250°C.

INCOMPATIBILITIES/REACTS: Reacts with molten alkali metals and interhalogen compounds. Will burn in atmosphere of 95% oxygen when an ignition source is present.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition will evolve hydrofluoric acid, carbonyl fluoride, and other perfluorodelfins.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION XI- Toxicological Information

GENERAL: No Potential hearth hazards when used within processing guidelines. Fluoropolymers are physiologically inert and are considered non-toxic.

IMMEDIATE (ACUTE) EFFECTS: See section III.

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:
See section III

TOXICITY OF PRODUCT: Non toxic when used within recommended guidelines.

OTHER DATA: None.

SECTION XII- Ecological Information

No known harmful effects on the environment.

SECTION XIII- Disposal Considerations

Clean material may be recycled.

Dispose of Fluoropolymer material as solid waste according to local regulations.

Dispose of packaging as solid waste according to local regulations.

Can be incinerated only if the HF effluent can be extracted from the flue gases.

This information relates only to uncontaminated product. If used in a process which contaminates product, then disposal considerations should be re-evaluated.

JENSEN INERT PRODUCTS**SECTION XIV- Transport Information**

DOT designation: Not hazardous
 UN No.: Not determined
 ICAO/IATA: Not hazardous

There is no known transportation requirements associated with this material in the form supplied based on currently available data.

SECTION XV- Regulatory InformationToxic Substances Control Act (TSCA)

TSCA INVENTORY STATUS: All components are listed on the TSCA inventory.

OTHER TSCA ISSUES: This product is considered an article under TSCA.

SARA Title III/CERCLA

"Reportable Quantities" (RQ's) and/or "Threshold Planning Quantities" (TPQ's) exist for the following ingredients.

<u>Ingredient Name</u>	<u>SARA/CERCLA RQ (lb)</u>	<u>SARA EHS TPQ (lb)</u>
No ingredients listed in this section.		

Spills or releases resulting in the loss of any ingredient at or above its RQ requires immediate notification to the National Response Center (800) 424-8802 and to your Local Emergency Planning Committee.

SECTION 311 HAZARD CLASS: None

The following ingredients are SARA 313 "Toxic Chemicals", CAS Numbers and weight percents are found in Section II.

<u>Ingredient Name</u>	<u>Comment</u>
No ingredients listed in this section.	

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section II, the following are listed for state right-to-know purposes.

<u>Ingredient Name</u>	<u>Weight %</u>	<u>Comment</u>
No ingredients listed in this section.		

JENSEN INERT PRODUCTSADDITIONAL REGULATORY INFORMATION:

CALIFORNIA PROPOSITION 65 STATEMENT: These products are manufactured from polytetrafluoroethylene (PTFE) raw materials which may contain TFE (tetrafluoroethylene) residual monomer. TFE is known by the state of California to cause cancer, birth defects, or other reproductive harm.

WHMIS CLASSIFICATION (CANADA): Not a controlled substance. (Considered to be a manufactured article.)

FOREIGN INVENTORY STATUS: Not determined

SECTION XVI- Other Information

This material safety data sheet was prepared in compliance with US OSHA Hazard Communication Standard 29CFR1910.1200 and the European Council Directive 91/155/EEC, 67/548 and 88/379/EEC as well as their relevant amendments, on the approximation of laws, regulations and administrative provisions relative to the classification, packaging and labeling of dangerous substances and preparations.

The information and recommendations set forth above are taken from sources believed to be accurate as of the date hereof; however, Jensen Inert Product makes no warranty with respect to the accuracy or the information or the suitability of the recommendations, and assumes no liability to any user thereof. The information contained in this sheet does not constitute a hazard assessment and should not be used in place of the user's own assessment of workplace risks as required by other health and safety legislation.

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