

SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY INFORMATION

PRODUCT NAME: **Tert-butylimido tris(ethylmethanimido) tantalum**

FORMULA: $C_{13}H_{33}N_4Ta$

CAS NO: 511292-99-2

SYNONYMS: Tris(ethylmethanimido) tert-butylimido tantalum

Intended Use: For R&D use only.

MANUFACTURER:

WONIK MATERIALS NORTH AMERICA
N115 W19392 EDISON DRIVE
GERMANTOWN, WI 53022 USA

PHONE: +1-262-293-0251
FAX: +1-262-253-1258

IN CASE OF TRANSPORTATION EMERGENCY CONTACT CHEM-TREC +1-703-741-5971
FOR TECHNICAL INFORMATION CONTACT: +1-262-293-0251

SECTION 2 HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION: Flammable liquids (category 2), H225

Substances and mixtures which, in contact with water, emit flammable gases (category 2), H261

Skin corrosion (category 1B), H314

Serious eye damage (category 1), H318

Pictogram



Signal Word

Danger

Tert-butylimido tris(ethylmethanimido) tantalum

SECTION 2 HAZARDS IDENTIFICATION (Cont.)

Hazard Statements

H225	Highly flammable liquid and vapor
H261	In contact with water releases flammable gas
H314	Causes severe skin burns and eye damage

Precautionary Phrases

P210	Keep away from heat/sparks/open flames/hot surfaces - No smoking
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.
P231 + P232	Handle under inert gas, protect from moisture
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P241	Use explosion-proof electrical/ventilating/lighting/.../equipment
P242	Use only non-sparking tools
P243	Take precautionary measures against static discharge
P264	Wash hands thoroughly after handling
P280	Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER or a doctor/physician
P335 + P334	Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
P363	Wash contaminated clothing before reuse
P370 + P378	In case of fire: Use dry powder for extinction
P402 + P404	Store in a dry place. Store in a closed container
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up
P501	Dispose of contents/ container to an approved waste disposal plant

OTHER HAZARDS

Reacts violently with water

NFPA 704 RATINGS (SCALE 0-4):

Health: 3

Flammability: 3

Reactivity: 1

SPECIAL: WATER REACTIVE

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Formula: $C_{13}H_{33}N_4Ta$

CHEMICAL NAME	CAS#
Tert-butylimido tris(ethylmethylamido) tantalum	511292-99-2

SECTION 4 FIRST AID MEASURES

EYE EXPOSURE: Immediately flush eyes with plenty of water for at least 15 minutes. A victim may need help keeping their eyelids open. Seek immediate medical attention. Continue rinsing during transport to hospital.

SKIN EXPOSURE: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Seek medical attention.

INHALATION: Move victim into fresh air. If not breathing, give artificial respiration. Seek medical attention.

INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical attention.

Tert-butylimido tris(ethylmethylamido) tantalum

SECTION 5 FIREFIGHTING MEASURES

EXTINGUISHING MEDIA:

Suitable Use dry chemical.
Unsuitable DO NOT USE WATER!

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:

Carbon oxides, nitrogen oxides (NOx), and Tantalum oxides

ADVICE FOR FIRE FIGHTERS

Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6 ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

For personal protection see section 8.

ENVIRONMENTAL PRECAUTIONS

Prevent further leakage or spillage if safe to do so. Do not allow material to enter drains or streams.

METHODS AND MATERIALS

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water.

SECTION 7 HANDLING AND STORAGE

PERSONAL PRECAUTIONS

Avoid inhalation of vapor or mist.

Use explosion-proof equipment. Keep away from sources of ignition – No smoking. Take measures to prevent the buildup of electrostatic charge.

CONDITIONS FOR SAFE STORAGE

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Never allow product to get in contact with water during storage. Handle and store under inert gas. Air sensitive.

INCOMPATIBILITIES:

Exposure to air, moisture.

SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

Contains no substances with occupational exposure limit values.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY PROTECTION: Use a full-face air-purifying respirator with multi-purpose combination or type ABEK respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards.

EYE/FACE PROTECTION: Wear chemical safety goggles, faceshield. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH or EN.

SKIN PROTECTION: Compatible chemical-resistant gloves. Inspect gloves before each use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

BODY PROTECTION: Complete suit protecting against chemicals, flame retardant antistatic protective clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Pale yellow liquid
FORMULA MASS: 426.39g/mol
ODOR: Pungent smell
ODOR THRESHOLD: No data available
pH: Not available
MELTING POINT/ FREEZING POINT: not available
BOILING POINT: 98 °C @ 1.8 torr
FLASH POINT: 17.8 °C
EVAPORATION RATE: No data available
UPPER/LOWER FLAMMABILITY/EXPLOSION LIMITS: no data available
VAPOR PRESSURE: no data available
VAPOR DENSITY: no data available
SPECIFIC GRAVITY: 1.323 g/ml at 25 °C
SOLUBILITY IN WATER: Reacts violently
PARTITION COEFFICIENT: N-OCTANOL/WATER: no data available
AUTO-IGNITION TEMPERATURE: no data available
DECOMPOSITION: No data available
VISCOSITY: No data available

SECTION 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable in sealed containers and stored under a dry inert atmosphere.
POSSIBILITY OF HAZARDOUS REACTION: Will not polymerize. Reacts violently with water. Vapors may form explosive mixture with air.
CONDITIONS TO AVOID: Heat, flame, and sparks. Exposure to moisture. Extremes of temperature and direct sunlight.
INCOMPATIBLE MATERIALS: Strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon oxides, nitrogen oxides (NO_x), and Tantalum oxides

SECTION 11 TOXICOLOGICAL DATA

ACUTE TOXICITY: No data available.
SKIN CORROSIVE/IRRITANT: Can cause severe burns to the skin.
SERIOUS EYE DAMAGE/IRRITATION: Can cause serious damage to eyes.
RESPIRATORY OR SKIN SENSITIZATION: No data available
GERM CELL MUTAGENICITY: No data available **CARCINOGENICITY:**
No data available
REPRODUCTIVE TOXICITY: No data available
STOT-Single Exposure: No data available
STOT-Repeated Exposure: No data available
ASPIRATION HAZARD: No data available
ADDITIONAL INFORMATION:
Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea.

SECTION 12 ECOLOGICAL DATA

TOXICITY: No data available
PERSISTENCE AND DEGRADABILITY: No data available
BIOACCUMULATIVE POTENTIAL: No data available
MOBILITY IN SOIL: No data available
OTHER ADVERSE EFFECTS: No data available

SECTION 13 DISPOSAL CONSIDERATIONS

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed waste disposal service to dispose of this material.

Dispose of contaminated packaging as unused product.

SECTION 14 TRANSPORTATION DATA

Organometallic substance, liquid, water-reactive, flammable (tert-butylimido tris(ethylmethylamido) tantalum)

UN3399 Class 4.3, 3 PG: II

Marine pollutant: No data available.

IATA, IMDG and DOT Regulated

SECTION 15 REGULATORY INFORMATION

SARA 302/313 Components:

No chemicals in this material are subject to reporting requirements of SAR Title III, Section 302 or 313.

SARA 311/312 Hazards

Fire Hazard, Reactivity Hazard, Acute Health Hazard

Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know/New Jersey Right to Know Components

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California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16 OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Wonik Materials North America makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information. DATE PREPARED: 12/2018 Revision 1
SDS DEPT

Tert-butylimido tris(ethylmethylamido) tantalum