

MATERIAL SAFETY DATA SHEET (MSDS) TCA-PI2 TITANATE

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

1.1	Production	TCA-PI2 organic titanate
1.2	Generic Description:	Organic titanate and isopropyl alcohol mixture
1.3	Physical form:	Liquid
1.4	Color:	Red
1.5	Odor:	Sour rancid unpleasant odor
1.7	IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY	
	Manufacturer:	Nanjing Capatue Chemical Co., Ltd
	Address:	No. 20 JiangJun Avenue, Jiangning Development Zone, Nanjing, Jiangsu Province, P. R. China P.C: 211100
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2. HAZARDS IDENTIFICATION

Acute Effects

Eye:	Direct contact may cause mild irritation.
Skin:	No significant irritation expected from a single short-term exposure.
Inhalation:	Vapor and/or mist may irritate nose and throat. Overexposure by inhalation may cause drowsiness, dizziness, confusion or loss of coordination.
Oral:	Overexposure by ingestion may cause effects similar to those listed under repeated exposure. Overexposure by ingestion may cause drowsiness, dizziness, confusion or loss of coordination.

Prolonged/Repeated Exposure Effects

Skin:	Repeated skin contact may cause allergic skin reaction. Repeated or prolonged exposure may cause irritation.
Inhalation:	Prolonged or repeated exposure by inhalation may injure the following organ(s): Liver.
Oral:	Prolonged or repeated exposure by ingestion may injure the following organ(s): Liver.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon

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similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS Number	Wt %	Component Name
68586-02-7	70.0	Bis(acetylactonate) isobutoxide isopropoxide titanium
67-63-0	30.0	Isopropyl alcohol

The above components are hazardous as defined in 29 CFR 1910.1200.

4. FIRST AID MEASURES

4.1	Eye:	Immediately flush with water for 15 minutes. Get medical attention.
4.2	Skin:	Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.
4.3	Inhalation:	Remove to fresh air. Get medical attention if ill effects persist.
4.4	Oral:	Get immediate medical attention.
4.5	Notes to Physician:	Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

5.1	Flash Point:	59 °F/ 15°C PMCC
5.2	Lower Limits:	N/A
5.3	Upper Limits:	N/A
5.4	Extinguishing Media:	Water only; no dry chemical, foam or carbon oxide, flood with water.
5.5	Fire Fighting Procedures:	Small amounts of water may be ineffective.
5.6	Unusual Fire/Explosion Hazard:	Flammable, keep away from heat, sparks and flames.

6. ACCIDENTAL RELEASE MEASURES

6.1	Containment/Clean up:	Determine whether to evacuate or isolate the area according to your local emergency plan. Observe all personal protection equipment recommendations described in Sections 5 and 8. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from
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spill with suitable absorbent. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call Capatue Chemical, if additional information is required.

7. HANDLING AND STORAGE

7.1	Handling and Storage Precautions:	<ul style="list-style-type: none"> Keep container closed. Moisture degrades: keep dry. Store in low fire risk area. Freezing affects physical condition but will not damage.
7.2	Handling and Storage Precautions: Other Precautions:	<ul style="list-style-type: none"> Prevent bodily contact. Wash thoroughly after handling. Will not corrosive to steel, but promotes rusting of iron metals.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
67-63-0	Isopropyl alcohol	OSHA PEL(final rule) and ACGIH TLV: TWA 1000 ppm

Provide adequate ventilation to control exposures within guidelines of OSHA PEL and ACGIH TLV: TWA 1000 ppm.

Engineering Controls

Local Ventilation: Recommended.

General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling

Eyes: Use proper protection – safety glasses as a minimum.

Skin: Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.

Suitable Gloves: Silver Shield (R). 4H(R).

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Inhalation	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposure is within recommended exposure guidelines. Industrial Hygiene Personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Organic Vapor Type.
<u>Personal Protective Equipment for Spills</u>	
Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. If skin contact occurs, change contaminated clothing as soon as possible and thoroughly flush affected areas with cool water. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Use self-contained breathing apparatus (SCBA) or other supplied-air respirator.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Do not breathe vapor, mist, dust or fumes. Keep container closed. Do not take internally. Use reasonable care.
Comments:	Product evolves flammable ethyl alcohol when exposed to water or humid air. Provide ventilation during use to control exposure within Section 8 guidelines or use air-supplied or self-contained breathing apparatus. No Formaldehyde Related Warning.
Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding aerosol inhalation toxicity, please refer to the guidance document regarding the use of silicone-based materials in aerosol applications that has been developed by the silicone industry or contact the Capatue Chemical customer service group.	

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear liquid, red
Odor	Sour rancid unpleasant
Evaporation Rate & Reference::	Not available
Specific Gravity @ 20°C:	0.996
Boiling Point:	180 °F/ 82 °C
Vapor Pressure @ 25°C:	67
Vapor Density:	N/A
Solubility in Water:	Dispersible
Percent Volatiles by Volume:	25

Note: The above information is not intended for use in preparing product specifications. Contact Capatue Chemical before writing specifications.



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10. STABILITY AND REACTIVITY

10.1	Chemical Stability:	Stable
10.2	Hazardous Polymerization:	Hazardous polymerization will not occur.
	Polymerization:	None
	Conditions to Avoid:	None
	Materials to Avoid:	Oxidizing material can cause a reaction.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Titanium dioxide.

11. TOXICOLOGICAL INFORMATION

Component Toxicology Information

Prolonged overexposure to Isopropyl alcohol has caused human birth defects.

Special Hazard Information on Components

Teratogens

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
67-63-0	25	Isopropyl alcohol	Evidence of teratogenicity (birth defects) in humans.

Sensitizers

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>	
68586-02-7	75	Bis(acetylacetonate) isobutoxide isopropoxide titanium	Possible skin sensitizer.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000

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This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.
This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Keep in covered drums, pending disposal. Handle & dispose in full compliance with all applicable international, federal, state, & local regulations.

14. TRANSPORT INFORMATION

14.1 DOT Road Shipment Information (49 CFR 172.101)

Proper Shipping Name	FLAMMABEL LIQUID, N.O.S.
Hazard Technical Name	ISOPROPYL ALCOHOL
Hazard Class	3
UN-No	UN1993
Packaging Group	III
Hazard Label(s)	FLAMMABEL LIQUID LABEL

14.2 Ocean Shipment (IMDG)

Proper Shipping Name	FLAMMABEL LIQUID, N.O.S.
Hazard Technical Name	ISOPROPYL ALCOHOL
Hazard Class	3
UN-No	UN1993
Packaging Group	III
Hazard Label(s)	FLAMMABEL LIQUID LABEL
Marine Pollutant:	NOT APPLICABLE

14.3 Air Shipment (IATA)

Proper Shipping Name	FLAMMABEL LIQUID, N.O.S.
Hazard Technical Name	ISOPROPYL ALCOHOL
Hazard Class	3
UN-No	UN1993
Packaging Group	III
Hazard Label(s)	FLAMMABEL LIQUID LABEL

Call Capatue Chemical if additional information is required.

15. REGULATORY INFORMATION

Contents of this MSDS comply with OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: : All chemical substances in this material are included on or

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exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 312 Hazard Class (40 CFR 370):

Acute: Yes

Chronic: Yes

Fire: Yes

Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Note: Chemicals are listed under the 313 Toxic Chemicals section only if they meet or exceed a reporting threshold.

12. OTHER INFORMATION

Prepared by: Nanjing Capatue Chemical Co., Ltd

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.