

MATERIAL SAFETY DATA SHEET (MSDS) of TCA-K44

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY			
1.1	Production	TCA-K44	
1.2	Generic Description:	Organo-Titanates	
1.3	Physical form:	Liquid	
1.4	Color:	Yellow Brown	
1.5	Odor:	Alcoholic	
1.6	HMIS Profile	Health 1	Flammability 2 Instability/Reactivity 0
1.7	NFPA Profile:	Health 1	Flammability 2 Instability/Reactivity 0
1.8	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	
	Telephone:	(0086-25)-86371193 Fax: (0086-25) 86371191-0	
	24Hour Emergency Telephone:	(0086-25)-86371192	
	Connect with:	Anhuanbu	

2. HAZARDS IDENTIFICATION	
<u>EMERGENCY OVERVIEW:</u>	Yellow-brown liquid with an alcoholic odor. It presents little or no immediate significant hazard if spilled. It presents no unusual hazard if involved in a fire, however, upon thermal decomposition it may emit toxic fumes. See Section 10.
Eye:	Contact with eyes may cause eye irritation.
Skin:	Prolonged or repeated skin contact may cause skin irritation.
Breathing:	This substance has the potential of being a respiratory tract irritation.
Inhalation:	There is the potential for respiratory tract irritation.
Swallowing:	Harmful if swallowed.
<u>Long Term Health Effects:</u>	Not known.
<u>Conditions Aggravated by Exposure:</u>	No known.

3. COMPOSITION/INFORMATION ON INGREDIENTS		
<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
65380-84-9	>95%	Titanium IV 2-propanolato, tris(3,6-diaza)hexanolato
111-41-1	<5%	Aminoethylethanolamine
67-63-0	<5%	Isopropanol
The above components are hazardous as defined in 29 CFR 1910.1200.		

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4. FIRST AID MEASURES

4.1	Eye:	Immediately flush eyes with plenty of water for at least 15 minutes, holding eyelids apart. Get immediate medical attention if irritation or other symptoms develop.
4.2	Skin:	Wash with soap and water. Get medical attention if irritation develops or persists.
4.3	Breathing:	If exposed to excessive levels of vapors or mists, remove to fresh air and get immediate medical attention if cough or other symptoms develop.
4.4	Swallowing:	Get immediate medical attention. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

5.1	Flash Point:	> 142°F / > 61 °C (Typical 150 F)
	Method	TCC
	Auto-ignition Temperature:	Not determined.
	Lower Explosive Point:	Not determined.
	Upper Explosive Point	Not determined.
	Extinguishing Media:	Foam, CO2, Dry chemical, Water spray
5.2	Fire Fighting Procedure:	Evacuate area and fight fire from a safe distance. Wear self-contained breathing apparatus pressure-demand (HHSA/NIOSH approved or equivalent) and full protective gear.
5.3	Special Fire Fighting Procedure:	As with any fire, wear self-contained breathing apparatus pressure-demand (HHSA/NIOSH approved or equivalent) and full protective gear. Using water can cause frothing with the potential for increasing fire intensity.
5.4	Unusual Fire and Explosion Hazards:	May emit toxic fumes upon thermal decomposition.
5.5	Sensitivity to Explosion by Mechanical Impact:	None
5.6	Sensitivity to Explosion by Static Discharge:	Potential exists
5.7	Conditions of Flammability:	Material will burn – avoid sources of ignition and also avoid temperatures that are within range of the flash point.
5.8	Unusual Fire Hazards:	May emit toxic fumes upon thermal decomposition.

6. ACCIDENTAL RELEASE MEASURES

6.1	General:	This material should be prevented from contaminating soil or from sewage and drainage systems and
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bodies of water. Isolate hazard/spill area. Keep unnecessary and unprotected personnel from entering area.

6.2 Small Spill:

Absorb spill with inert material, then place in a chemical waste container.

6.3 Large Spill:

Shut off leak, if safe to do so. Clean up spills immediately, observing precautions in Protective Equipment Section. contain spilled liquid with sand or earth. Retain all contaminated water and soil for removal and treatment.

7. HANDLING AND STORAGE

Handling:

Although this material does not present a significant skin or eye hazard, skin and eye contact should be prevented as good industrial hygiene practice. Wearing of protective gloves and eye protection is recommended. Always wash arms and hands after handling, as with any chemical.

Storage:

Store in a cool, dry and well ventilated area away from strong oxidizers and acid. Avoid those areas where there are ignition sources.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Levels:

Component	OSHA		ACGIH	
	TWA	STEL	TWA	STEL
	Not Established		Not Established	

Engineering Controls: Source of fine spray, mist or vapor should be controlled with local exhaust ventilation.

Eyes/Face Protection: Always use safety glasses. Where contact with the eyes is likely, use chemical goggles. Use a face shield as needed.

Skin Protection : Wear impervious gloves and chemical protective clothing, including impervious sleevelets, overalls, aprons, or boots, as needed, to prevent contact with skin.

Respiratory Protection: A NIOSH/MSHA approved air purifying respirator may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, if established. Consult with respirator's manufacturer to determine the appropriate type of equipment for a given application. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection

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program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form:	Liquid
Color:	Yellow-Brown
Odor:	Alcoholic
Boiling Range	>180 ⁰ F
Specific Gravity (relative to water @20 °C):	1.105
Freezing/Melting Point:	Not applicable
Vapor Pressure (mm Hg):	Not determined.
Vapor Density(relative to air):	Heavier
Solubility in Water:	Insoluble.
pH:	Not applicable
Octanol/ Water Partition Coefficient	Not applicable
Odor Threshold:	Not determined
Flash Point (TCC):	> 142 °F / > 61 °C minimum
Autoignition Temperature:	Not determined.

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

10. STABILITY AND REACTIVITY

10.1	Chemical Stability:	Stable
10.2	Strong Oxidizer	No
10.3	Hazardous Polymerization:	Not prone to hazardous polymerization .
10.4	Incompatibility	Oxidizers and acids; Alkaline materials and reducing agents.
10.5	Conditions to Avoid:	Keep from contact with oxidizers, acids, alkali and reducing agents. Avoid sources of ignition. Do not add nitrites as nitrosamine may be formed.

Hazardous Decomposition Products

Oxides of carbon, titanium and nitrogen compounds; ethylenediamine, ammonia, volatile amines.

11. TOXICOLOGICAL INFORMATION

LD50-ORAL, rats	2000-4000 mg/Kg
LD50-SKIN, guinea pigs	1800 mg/Kg
Ames-Nonmutagenic All Strains S-9 Activated	

12. ECOLOGICAL INFORMATION

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Ecotoxicological and Chemical Fate Information:

Ecotoxicity:

Material is practically non-toxic to aquatic organisms on an acute basis (LC50>100mg/l in most sensitive species). Acute LC50 for fathead minnow (pimephales promelas) is 728 mg/l. Acute LC50 for water flea (Daphnia magna) is 140 mg/l.

Biodegradation under aerobic static laboratory conditions is low (BOD20 or BOD28/ ThOD between 2.5 and 10%). Theoretical oxygen demand (ThOD) is calculated to be 2.77 p/p. 5-day biochemical oxygen demand (BOD5) IS 0.00 p/p. BOD 10 is 0.00. BOD20 is 0.14 p/p.

13. DISPOSAL CONSIDERATIONS

Waste Disposal:	Dispose of in accordance with all federal, state, and local regulations.
Container Disposal:	Dispose of in accordance with all federal, state, and local regulations.

14. TRANSPORT INFORMATION

14.1 DOT

DOT Shipping Name	Combustible liquid, n.o.s
Hazard Class	Combustible Liquid
UN/NA No	NA 1993
Packaging Group	III
Subsidiary Label	None
DOT Placard	(BULK) COMBUSTIBLE
DOT Label(s)	None

14.2 IMO

IMO Shipping Name	Combustible liquid, n.o.s
Hazard Class	Combustible Liquid
UN No	NA 1993
Packaging Group	III
Subsidiary Label	None
IMO Label(s)	None

14.3 IATA

IATA Shipping Name	Combustible liquid, n.o.s
Hazard Class	Combustible Liquid
UN No	NA 1993
Packaging Group	III
Subsidiary Label	None
IATA Label(s)	None

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Call Capatue Chemical if additional information is required.

15. REGULATORY INFORMATION	
SARA 311/312 Chronic Health Hazard	Not determined
SARA 311/312 Acute Health Hazard	irritant
SARA 311/312 Fire Hazard	Combustible Liquid
SARA 311/312 Sudden Pressure	Not applicable
SARA 311/312 Reactivity Hazard	No
Section 302 Extremely Hazardous Ingredient	None
CERCLA Hazardous Substance	None
Section 313 Toxic Chemicals	Isopropanol 67-63-0 <5%
NJ Environmental Hazardous Substances List	Not Listed
California Proposition 65 Ingredients	None
Reported in TSCA Inventory	Yes
Reported in EEC Inventory	Yes
Reported in Canada Inventory	Yes (NDSL)
Reported in Australia Inventory	No

16. OTHER INFORMATION	
Prepared by:	Nanjing Capatue Chemical Co., Ltd
<p>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.</p>	

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