








Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>2</td></tr><tr><td>Fire Hazard</td><td>1</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	2	Fire Hazard	1	Reactivity	0	<div></div> <div>See Section 15.</div>
Health Hazard	2							
Fire Hazard	1							
Reactivity	0							

Section 1. Chemical Product and Company Identification

Page Number: 1

Common Name/ Trade Name	Tributyl Citrate	Catalog Number(s).	T2259
Manufacturer	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	77-94-1
Commercial Name(s)	Not available.	RTECS	TZ860800
Synonym	Butyl Citrate	TSCA	TSCA 8(b) inventory: Tributyl Citrate
Chemical Name	Tributyl Citrate	CI#	Not available.
Chemical Family	Not available.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Formula	C18-H32-O7		
Supplier	SPECTRUM CHEMICAL MFG. CORP. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Tributyl Citrate	77-94-1				100
Toxicological Data on Ingredients	Not applicable.				

Section 3. Hazards Identification

Potential Acute Health Effects	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation (lung irritant).
Potential Chronic Health Effects	CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to cardiovascular system, upper respiratory tract, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	No known effect on eye contact, rinse with water for a few minutes.
Skin Contact	After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.
Serious Skin Contact	Not available.
Inhalation	Allow the victim to rest in a well ventilated area. Seek immediate medical attention.
Serious Inhalation	Not available.
Ingestion	Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	CLOSED CUP: 157°C (314.6°F).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO2).
Fire Hazards in Presence of Various Substances	Not available.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Absorb with an inert material and put the spilled material in an appropriate waste disposal.
Large Spill	Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe gas/fumes/ vapour/spray. Keep away from incompatibles such as oxidizing agents.
Storage	Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	Not available.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid. (Oily liquid.)	Odor	Not available.
Molecular Weight	360.45 g/mole	Taste	Not available.
pH (1% soln/water)	Not applicable.	Color	Clear Colorless.
Boiling Point	325°C (617°F)		
Melting Point	-62°C (-79.6°F)		
Critical Temperature	Not available.		
Specific Gravity	1.037 (Water = 1)		
Vapor Pressure	Not available.		
Vapor Density	12.4 (Air = 1)		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	Is not dispersed in cold water, hot water.		
Solubility	Insoluble in cold water, hot water.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Not available.
Incompatibility with various substances	Reactive with oxidizing agents.
Corrosivity	Not available.

Continued on Next Page

Special Remarks on
Reactivity

Not available.

Special Remarks on
Corrosivity

Not available.

Polymerization

No.

Section 11. Toxicological Information

Routes of Entry

Absorbed through skin. Eye contact. Inhalation.

Toxicity to Animals

LD50: Not available.
LC50: Not available.

Chronic Effects on Humans

CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.
The substance is toxic to cardiovascular system, upper respiratory tract, central nervous system (CNS).

Other Toxic Effects on
Humans

Slightly hazardous in case of skin contact (irritant), of inhalation (lung irritant).

Special Remarks on
Toxicity to Animals

Not available.

Special Remarks on
Chronic Effects on Humans

Not available.

Special Remarks on other
Toxic Effects on Humans

Not available.

Section 12. Ecological Information

Ecotoxicity

Not available.

BOD5 and COD

Not available.

Products of Biodegradation

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products
of Biodegradation

The product itself and its products of degradation are not toxic.

Special Remarks on the
Products of Biodegradation

Not available.

Section 13. Disposal Considerations

Waste Disposal

Section 14. Transport Information

DOT Classification

Not a DOT controlled material (United States).

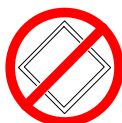
Identification

Not applicable.

Special Provisions for
Transport

Not applicable.

DOT (Pictograms)



Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations

TSCA 8(b) inventory: Tributyl Citrate

California Proposition 65 Warnings

Other Regulations

EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications

WHMIS (Canada)

Not controlled under WHMIS (Canada).

DSCL (EEC)

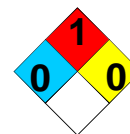
This product is not classified according to the EU regulations.

HMIS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	0
Personal Protection	g

National Fire Protection Association (U.S.A.)

Health



Flammability

Reactivity

Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)



Protective Equipment



Gloves.



Lab coat.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent.



Safety glasses.

Section 16. Other Information**MSDS Code** T3786**References** Not available.**Other Special
Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/14/2006.

CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.